

# gadids Stocks

## v4.66 (Nov-03-2024)

Not present Present Preferred

Stock	Time Series Types			
	B/Bmsy	U/Umsy	B/Bmgt	U/Umgmt
1. APOLLNEMS [Walleye pollock Nemuro Strait]	TB SSB	ER F	TB SSB	ER F
2. APOLLNSJ [Walleye pollock Sea of Japan North]	TB SSB	ER F	TB SSB	ER F
3. APOLLOKS [Walleye pollock Okhotsk Sea]	TB SSB	ER F	TB SSB	ER F
4. APOLLPJPN [Walleye pollock Pacific Coast of Japan]	TB SSB	ER F	TB SSB	ER F
5. ARGHAKENARG [Argentine hake Northern Argentina]	TB SSB	ER F	TB SSB	ER F
6. ARGHAKESARG [Argentine hake Southern Argentina]	TB SSB	ER F	TB SSB	ER F
7. BGRDRNSWWA [Blue grenadier New South Wales to Western Australia]	TB SSB	ER F	TB SSB	ER F
8. BHAKECWAAGO [Benguela hake Central West Africa Angola]	TB SSB	ER F	TB SSB	ER F
9. BLINGI-II-IIa-IVa-VIII-IX-XII [Blue ling ICES 1-2-3a-4a-8-9-12]	TB SSB	ER F	TB SSB	ER F
10. BLINGVa-XIV [Blue ling ICES 5a-14]	TB SSB	ER F	TB SSB	ER F
11. BLINGVb-VI-VII [Blue ling ICES 5b-6-7]	TB SSB	ER F	TB SSB	ER F
12. BWHITMEDGSA1 [Blue whiting Northern Alboran Sea]	TB SSB	ER F	TB SSB	ER F
13. BWHITMEDGSA6 [Blue whiting Northern Spain]	TB SSB	ER F	TB SSB	ER F
14. BWHITMEDGSA9 [Blue whiting Ligurian and North Tyrrhenian Sea]	TB SSB	ER F	TB SSB	ER F
15. BWHITNEA [Blue whiting Northeast Atlantic]	TB SSB	ER F	TB SSB	ER F
16. CHAKESA [Shallow water cape hake South Africa]	TB SSB	ER F	TB SSB	ER F
17. COD1ABCDE [Atlantic cod NAFO 1ABCDE]	TB SSB	ER F	TB SSB	ER F
18. COD1F-XIV [Atlantic cod NAFO 1F and ICES 14]	TB SSB	ER F	TB SSB	ER F
19. COD1IN [Atlantic cod NAFO Subarea 1 (inshore)]	TB SSB	ER F	TB SSB	ER F
20. COD2J3KL [Atlantic cod Southern Labrador-Eastern Newfoundland]	TB SSB	ER F	TB SSB	ER F
21. COD3M [Atlantic cod Flemish Cap]	TB SSB	ER F	TB SSB	ER F
22. COD3NO [Atlantic cod Southern Grand Banks]	TB SSB	ER F	TB SSB	ER F
23. COD3Pn4RS [Atlantic cod Northern Gulf of St. Lawrence]	TB SSB	ER F	TB SSB	ER F
24. COD3Ps [Atlantic cod St. Pierre Bank]	TB SSB	ER F	TB SSB	ER F
25. COD4TVn [Atlantic cod Southern Gulf of St. Lawrence]	TB SSB	ER F	TB SSB	ER F
26. COD4VsW [Atlantic cod Eastern Scotian Shelf]	TB SSB	ER F	TB SSB	ER F
27. COD4X5Yb [Atlantic cod Western Scotian Shelf, Bay of Fundy and Gulf of Maine]	TB SSB	ER F	TB SSB	ER F
28. COD5Zjm [Atlantic cod NAFO 5Zjm]	TB SSB	ER F	TB SSB	ER F
29. CODBA2224 [Atlantic cod Western Baltic]	TB SSB	ER F	TB SSB	ER F
30. CODBA2532 [Atlantic cod Eastern Baltic]	TB SSB	ER F	TB SSB	ER F
31. CODFABNK [Atlantic cod Faroe Bank]	TB SSB	ER F	TB SSB	ER F
32. CODFAPL [Atlantic cod Faroe Plateau]	TB SSB	ER F	TB SSB	ER F
33. CODGB [Atlantic cod Georges Bank]	TB SSB	ER F	TB SSB	ER F
34. CODGOM [Atlantic cod Gulf of Maine]	TB SSB	ER F	TB SSB	ER F
35. CODICE [Atlantic cod Iceland Grounds]	TB SSB	ER F	TB SSB	ER F
36. CODIIlaW-IV-VIId [Atlantic cod ICES 3a(west)-4-7d]	TB SSB	ER F	TB SSB	ER F
37. CODIS [Atlantic cod Irish Sea]	TB SSB	ER F	TB SSB	ER F

38. CODKAT [Atlantic cod Kattegat]	TB SSB	ER F	TB SSB	ER F
39. CODNEAR [Atlantic cod North-East Arctic]	TB SSB	ER F	TB SSB	ER F
40. CODNEARNCW [Atlantic cod North-East Arctic (Norwegian coastal waters)]	TB SSB	ER F	TB SSB	ER F
41. CODVla [Atlantic cod West of Scotland]	TB SSB	ER F	TB SSB	ER F
42. CODVlb [Atlantic cod Rockall Bank]	TB SSB	ER F	TB SSB	ER F
43. CODVllek [Atlantic cod Celtic Sea]	TB SSB	ER F	TB SSB	ER F
44. CUSK4X [Cusk Western Scotian Shelf]	TB SSB	ER F	TB SSB	ER F
45. CUSKI-II [Tusk North-East Arctic]	TB SSB	ER F	TB SSB	ER F
46. CUSKNEATL [Tusk Northeast Atlantic]	TB SSB	ER F	TB SSB	ER F
47. CUSKVa-XIV [Tusk ICES 5a-14]	TB SSB	ER F	TB SSB	ER F
48. CUSKVlb [Tusk Rockall Bank]	TB SSB	ER F	TB SSB	ER F
49. CUSKXII [Tusk North of Azores]	TB SSB	ER F	TB SSB	ER F
50. DEEPCHAKESA [Deep water cape hake South Africa]	TB SSB	ER F	TB SSB	ER F
51. EPOLLIV-IIIa [European pollack ICES 3a-4]	TB SSB	ER F	TB SSB	ER F
52. EPOLLVIII-IXa [European pollack ICES 8-9a]	TB SSB	ER F	TB SSB	ER F
53. GFORKBMEDGSA9 [Greater forkbeard Ligurian and North Tyrrhenian Sea]	TB SSB	ER F	TB SSB	ER F
54. GFORKNEATL [Greater forkbeard Northeast Atlantic]	TB SSB	ER F	TB SSB	ER F
55. HAD3LNO [Haddock Grand Banks]	TB SSB	ER F	TB SSB	ER F
56. HAD3Ps [Haddock St. Pierre Bank]	TB SSB	ER F	TB SSB	ER F
57. HAD4X5Y [Haddock Western Scotian Shelf, Bay of Fundy and Gulf of Maine]	TB SSB	ER F	TB SSB	ER F
58. HAD5Y [Haddock Gulf of Maine]	TB SSB	ER F	TB SSB	ER F
59. HADFAPL [Haddock Faroe Plateau]	TB SSB	ER F	TB SSB	ER F
60. HADGB [Haddock Georges Bank]	TB SSB	ER F	TB SSB	ER F
61. HADICE [Haddock Iceland Grounds]	TB SSB	ER F	TB SSB	ER F
62. HADIS [Haddock Irish Sea]	TB SSB	ER F	TB SSB	ER F
63. HADNEAR [Haddock North-East Arctic]	TB SSB	ER F	TB SSB	ER F
64. HADNS-IIIa-VIa [Haddock ICES 3a-4-6a]	TB SSB	ER F	TB SSB	ER F
65. HADROCK [Haddock Rockall Bank]	TB SSB	ER F	TB SSB	ER F
66. HADVIIb-k [Haddock ICES 7b-k]	TB SSB	ER F	TB SSB	ER F
67. HAKEMEDGSA15-16 [Hake Malta Island and South of Sicily (GSA 15, 16)]	TB SSB	ER F	TB SSB	ER F
68. HAKEMEDGSA1-7 [Hake Geographical Sub-Areas 1-7]	TB SSB	ER F	TB SSB	ER F
69. HAKEMEDGSA17-18 [Hake Adriatic Sea (GSA 17,18)]	TB SSB	ER F	TB SSB	ER F
70. HAKEMEDGSA19 [Hake Western Ionian Sea]	TB SSB	ER F	TB SSB	ER F
71. HAKEMEDGSA20 [Hake Eastern Ionian Sea]	TB SSB	ER F	TB SSB	ER F
72. HAKEMEDGSA22-23 [Hake Aegean Sea and Crete Island (GSA 22,23)]	TB SSB	ER F	TB SSB	ER F
73. HAKEMEDGSA7 [Hake Gulf of Lions]	TB SSB	ER F	TB SSB	ER F
74. HAKEMEDGSA8-11 [Hake Geographical Sub-Areas 8-11]	TB SSB	ER F	TB SSB	ER F
75. HAKENRTN [Hake ICES 3a-4-6-7-8abd]	TB SSB	ER F	TB SSB	ER F
76. HAKENWAMAR [Hake North West Africa Morocco]	TB SSB	ER F	TB SSB	ER F
77. HAKESOTH [Hake ICES 8c-9a]	TB SSB	ER F	TB SSB	ER F
78. HAKESPPNWA [Hake spp North West Africa]	TB SSB	ER F	TB SSB	ER F
79. HAKESPPSAF [Hake spp Southern Africa]	TB SSB	ER F	TB SSB	ER F
80. HOKIENZ [Hoki Eastern New Zealand]	TB SSB	ER F	TB SSB	ER F
81. HOKIWNZ [Hoki Western New Zealand]	TB SSB	ER F	TB SSB	ER F

82. LCODLINGPAC [Longfin codling Pacific Ocean]	TB SSB	ER F	TB SSB	ER F
83. LINGI-II [Ling North-East Arctic]	TB SSB	ER F	TB SSB	ER F
84. LINGNEATL [Ling Northeast Atlantic]	TB SSB	ER F	TB SSB	ER F
85. LINGVa [Ling Iceland Grounds]	TB SSB	ER F	TB SSB	ER F
86. LINGVb [Ling Faroe Grounds]	TB SSB	ER F	TB SSB	ER F
87. NPOUTIIIa-IV [Norway pout ICES 3a-4]	TB SSB	ER F	TB SSB	ER F
88. NPOUTVIa [Norway pout West of Scotland]	TB SSB	ER F	TB SSB	ER F
89. PATCODARGS [Patagonian cod Southern Argentina]	TB SSB	ER F	TB SSB	ER F
90. PATGRENADIERCH [Patagonian grenadier Central-Southern Chile]	TB SSB	ER F	TB SSB	ER F
91. PATGRENADERSARG [Patagonian grenadier Southern Argentina]	TB SSB	ER F	TB SSB	ER F
92. PCOD5ABCD [Pacific cod British Columbia Waters Area 5ABCD]	TB SSB	ER F	TB SSB	ER F
93. PCODAI [Pacific cod Aleutian Islands]	TB SSB	ER F	TB SSB	ER F
94. PCODBS [Pacific cod Bering Sea]	TB SSB	ER F	TB SSB	ER F
95. PCODGA [Pacific cod Gulf of Alaska]	TB SSB	ER F	TB SSB	ER F
96. PCODHOKK [Pacific cod Hokkaido]	TB SSB	ER F	TB SSB	ER F
97. PCODNPAC [Pacific cod North Pacific]	TB SSB	ER F	TB SSB	ER F
98. PCODSOJ [Pacific cod Sea of Japan]	TB SSB	ER F	TB SSB	ER F
99. PCODWCVANI [Pacific cod West Coast of Vancouver Island]	TB SSB	ER F	TB SSB	ER F
100. PHAKEPCOAST [Pacific hake Pacific Coast]	TB SSB	ER F	TB SSB	ER F
101. POLL3Ps [Pollock St. Pierre Bank]	TB SSB	ER F	TB SSB	ER F
102. POLL4VWX [Pollock Scotian Shelf and Bay of Fundy]	TB SSB	ER F	TB SSB	ER F
103. POLL5YZ [Pollock Gulf of Maine / Georges Bank]	TB SSB	ER F	TB SSB	ER F
104. POLLFAPL [Saithe Faroe Plateau]	TB SSB	ER F	TB SSB	ER F
105. POLLIEG [Saithe Iceland Grounds]	TB SSB	ER F	TB SSB	ER F
106. POLLNEAR [Saithe North-East Arctic]	TB SSB	ER F	TB SSB	ER F
107. POLLNS-VI-IIla [Saithe ICES 3a-4-6]	TB SSB	ER F	TB SSB	ER F
108. PRCODMEDGSA9 [Poor cod Ligurian and North Tyrrhenian Sea]	TB SSB	ER F	TB SSB	ER F
109. RHAKEGOMNGB [Red hake Gulf of Maine / Northern Georges Bank]	TB SSB	ER F	TB SSB	ER F
110. RHAKESGBMATL [Red hake Southern Georges Bank / Mid-Atlantic]	TB SSB	ER F	TB SSB	ER F
111. RHGRENNEATL [Roughhead grenadier Northeast Atlantic]	TB SSB	ER F	TB SSB	ER F
112. RNGENI-II-IV-Va2-VIII-IX-XIVab2 [Roundnose grenadier ICES 1-2-4-5a2-8-9-14ab2]	TB SSB	ER F	TB SSB	ER F
113. RNGENMATLR [Roundnose grenadier Mid-Atlantic Ridge]	TB SSB	ER F	TB SSB	ER F
114. RNGENVb-VI-VII-XIIb [Roundnose grenadier ICES 5b-6-7-12b]	TB SSB	ER F	TB SSB	ER F
115. RNGRENIlla [Roundnose grenadier Kattegat and Skagerrak]	TB SSB	ER F	TB SSB	ER F
116. SBWHITACIR [Southern blue whiting Campbell Island Rise]	TB SSB	ER F	TB SSB	ER F
117. SBWHITARGS [Southern blue whiting Southern Argentina]	TB SSB	ER F	TB SSB	ER F
118. SBWHITCH [Southern blue whiting Central-Southern Chile]	TB SSB	ER F	TB SSB	ER F
119. SHAKE4VWX [Silver hake Scotian Shelf and Bay of Fundy]	TB SSB	ER F	TB SSB	ER F
120. SHAKEGOMNGB [Silver hake Gulf of Maine / Georges Bank]	TB SSB	ER F	TB SSB	ER F
121. SHAKESGBMATL [Silver hake Southern Georges Bank / Mid-Atlantic]	TB SSB	ER F	TB SSB	ER F
122. SOUTHHAKECH [Southern hake Central-Southern Chile]	TB SSB	ER F	TB SSB	ER F
123. SOUTHHAKECR [Southern hake Chatham Rise]	TB SSB	ER F	TB SSB	ER F
124. SOUTHHAKESA [Southern hake Sub-Antarctic]	TB SSB	ER F	TB SSB	ER F
125. SOUTHHAKEWCSI [Southern hake West Coast South Island]	TB SSB	ER F	TB SSB	ER F
126. SPHAKECH [South Pacific hake Central-Southern Chile]	TB SSB	ER F	TB SSB	ER F

127. WHAKE3Ps [White hake St. Pierre Bank]	TB SSB	ER F	TB SSB	ER F
128. WHAKE4RS [White hake Northern Gulf of St. Lawrence]	TB SSB	ER F	TB SSB	ER F
129. WHAKE4T [White hake Southern Gulf of St. Lawrence]	TB SSB	ER F	TB SSB	ER F
130. WHAKE4VWX5 [White hake Scotian Shelf, Bay of Fundy and Georges Bank]	TB SSB	ER F	TB SSB	ER F
131. WHAKEGBGOM [White hake Gulf of Maine / Georges Bank]	TB SSB	ER F	TB SSB	ER F
132. WHITIIIa [Whiting Kattegat and Skagerrak]	TB SSB	ER F	TB SSB	ER F
133. WHITMEDGSA29 [Whiting Black Sea]	TB SSB	ER F	TB SSB	ER F
134. WHITNS-VIId [Whiting ICES 4-7d]	TB SSB	ER F	TB SSB	ER F
135. WHITVla [Whiting West of Scotland]	TB SSB	ER F	TB SSB	ER F
136. WHITVlb [Whiting Rockall Bank]	TB SSB	ER F	TB SSB	ER F
137. WHITVlla [Whiting Irish Sea]	TB SSB	ER F	TB SSB	ER F
138. WHITVllbce-k [Whiting Celtic Sea]	TB SSB	ER F	TB SSB	ER F
139. WHITVIII-IXa [Whiting ICES 8-9a]	TB SSB	ER F	TB SSB	ER F
140. WPOLLAI [Walleye pollock Aleutian Islands]	TB SSB	ER F	TB SSB	ER F
141. WPOLLBCWN [Walleye pollock British Columbia Waters North]	TB SSB	ER F	TB SSB	ER F
142. WPOLLBCWS [Walleye pollock British Columbia Waters South]	TB SSB	ER F	TB SSB	ER F
143. WPOLLBOGO [Walleye pollock Bogoslof]	TB SSB	ER F	TB SSB	ER F
144. WPOLLEBS [Walleye pollock Eastern Bering Sea]	TB SSB	ER F	TB SSB	ER F
145. WPOLLGA [Walleye pollock Gulf of Alaska]	TB SSB	ER F	TB SSB	ER F
146. WPOLLNAVAR [Walleye pollock Navarinsky]	TB SSB	ER F	TB SSB	ER F
147. WPOLLNSO [Walleye pollock Northern Sea of Okhotsk]	TB SSB	ER F	TB SSB	ER F
148. WPOLLSEGA [Walleye pollock Southeast Gulf of Alaska]	TB SSB	ER F	TB SSB	ER F
149. WPOLLWBS [Walleye pollock Western Bering Sea]	TB SSB	ER F	TB SSB	ER F

## Walleye pollock Nemuro Strait [APOLLNEMS]

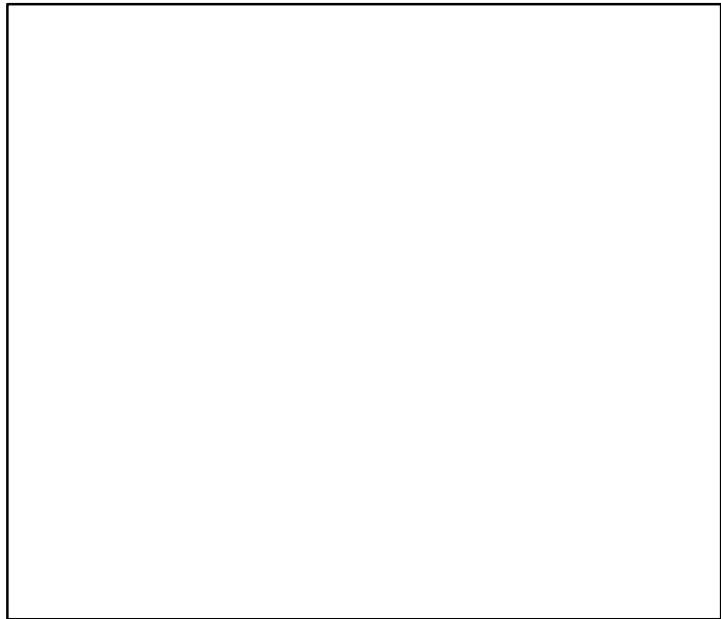
<b>Metadata</b>	
<b>Scientific Name</b>	Theragra chalcogramma
<b>Current Assess ID</b>	FAFRFJ-APOLLNEMS-1981-2013-JPNIMP2016
<b>Area</b>	Nemuro Strait
<b>Management Authority</b>	Fisheries Agency of Japan
<b>Assessor</b>	Fisheries Agency and Fisheries Research Agency of Japan
<b>Asmts in RAM</b>	2013

<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>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	M-1/yr	2013	0.25
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

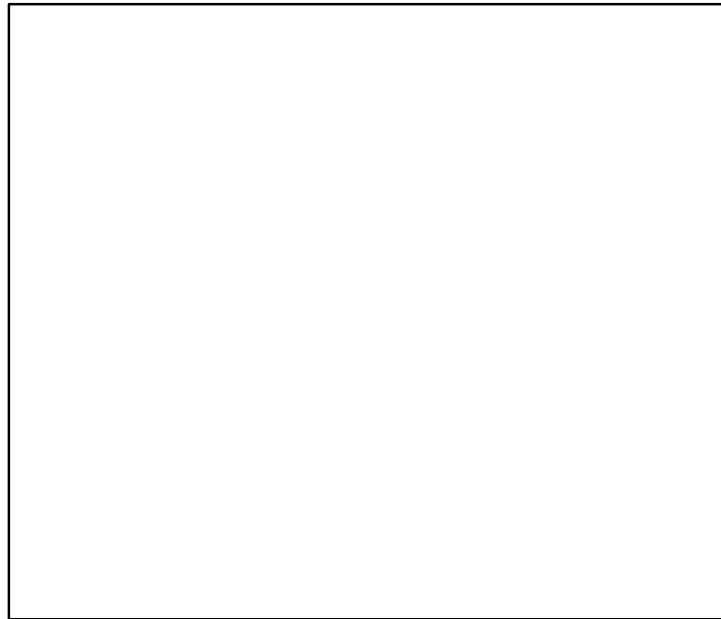
<b>Time Series</b>					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2013	7720		
<b>TL</b>	-	-	-		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

Walleye pollock Nemuro Strait [APOLLNEMS]

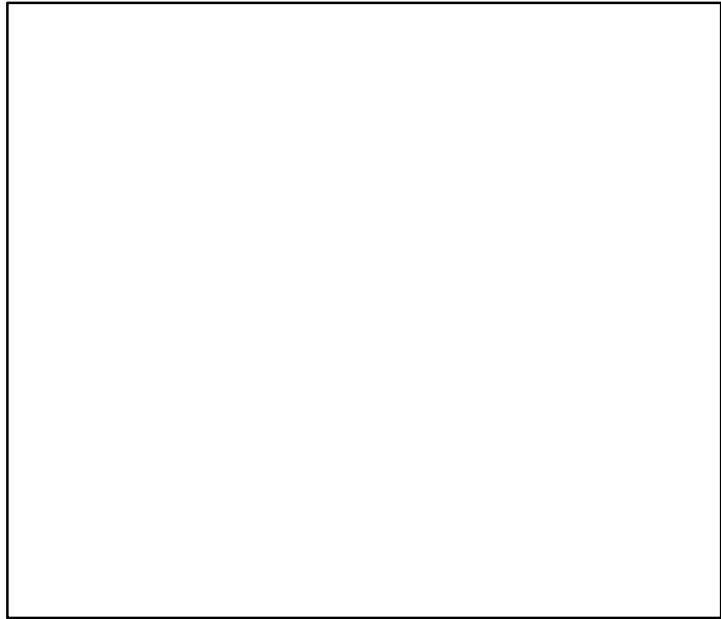
Kobe MSY\*



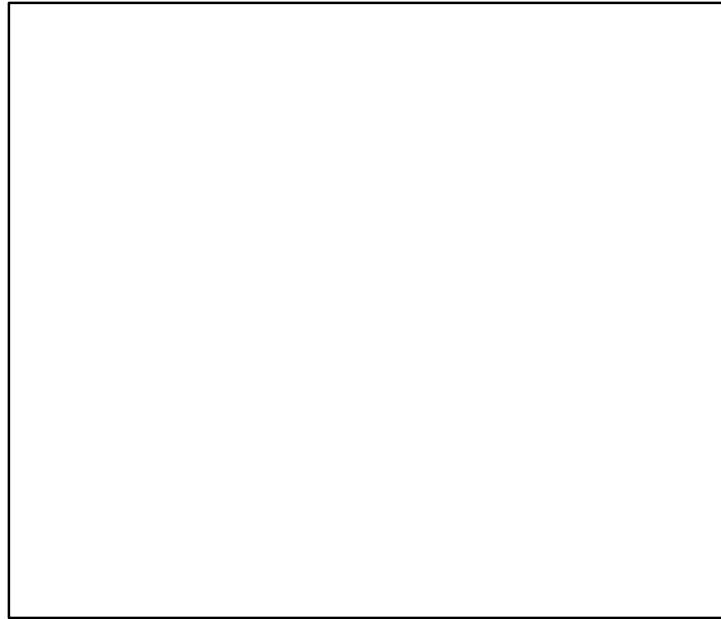
Kobe MGT\*



Spawner Recruit\*



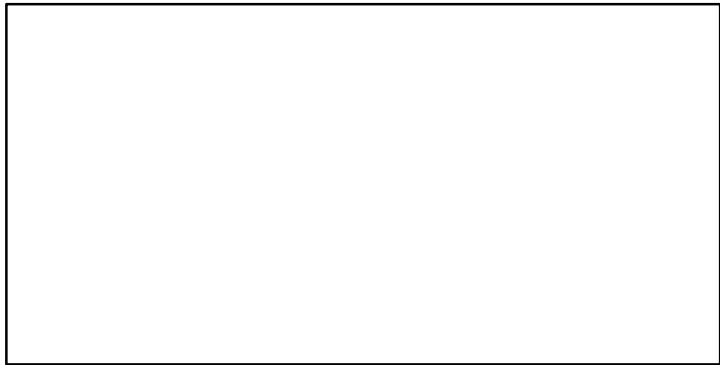
Production\*



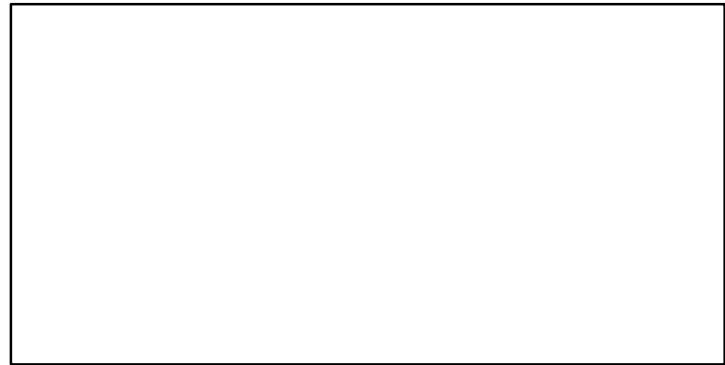
◆ Start Year ♦ End Year \* No Data

Walleye pollock Nemuro Strait [APOLLNEMS]

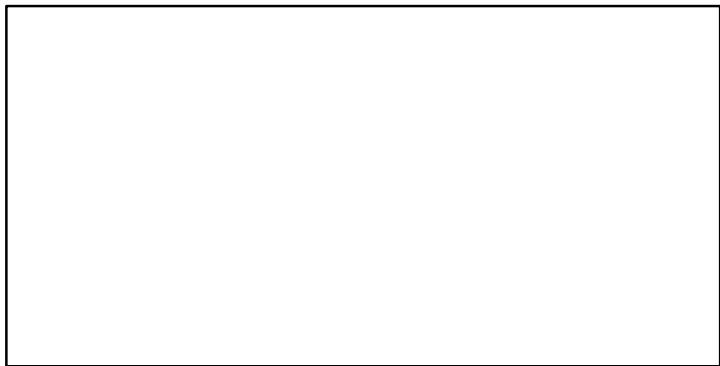
**TB\***



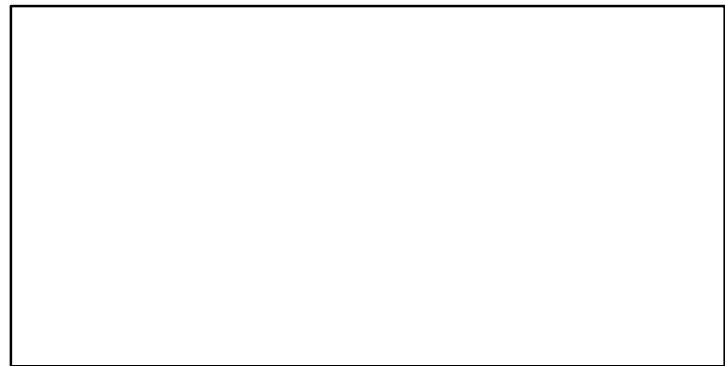
**SSB\***



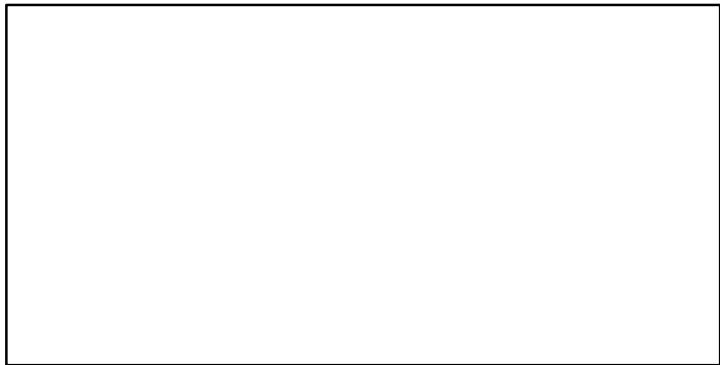
**TN \***



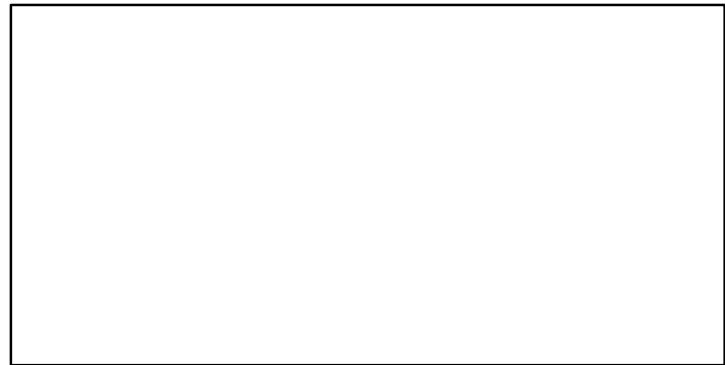
**F\***



**ER\***



**Recruits\***

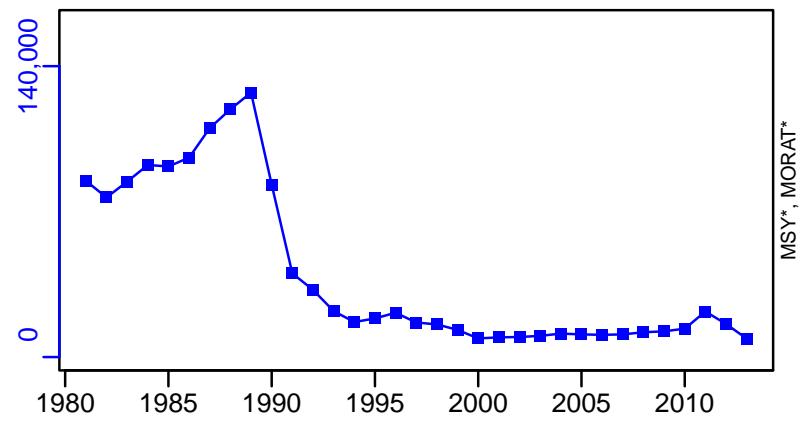


- |                      |                  |           |
|----------------------|------------------|-----------|
| ■ Listed time series | - - - Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP    | * No Data |

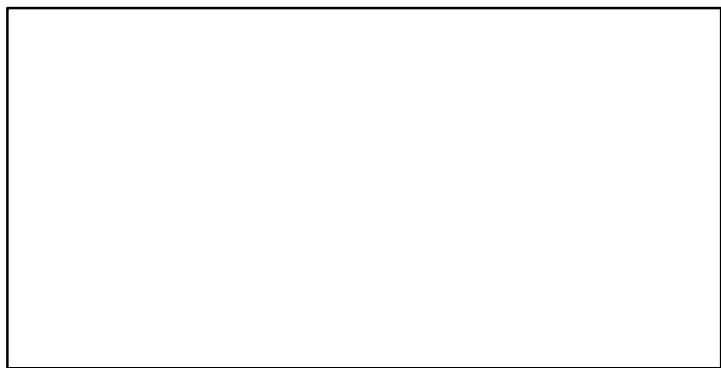
Walleye pollock Nemuro Strait [APOLLNEMS]

TC-MT, TL\*, RecC\* (1981–2013–JPNIMP2016)

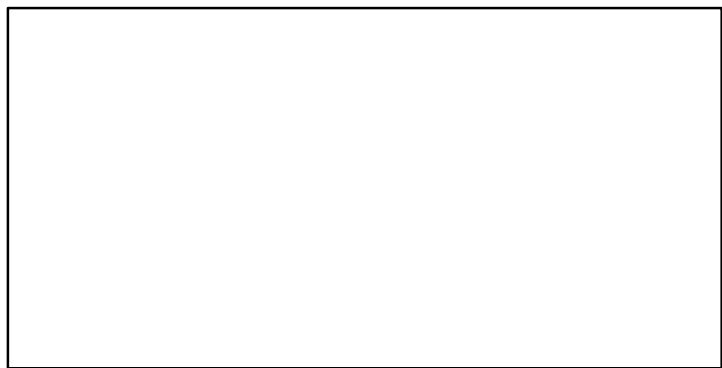
TAC\*, Cpair\*, Cadv\*



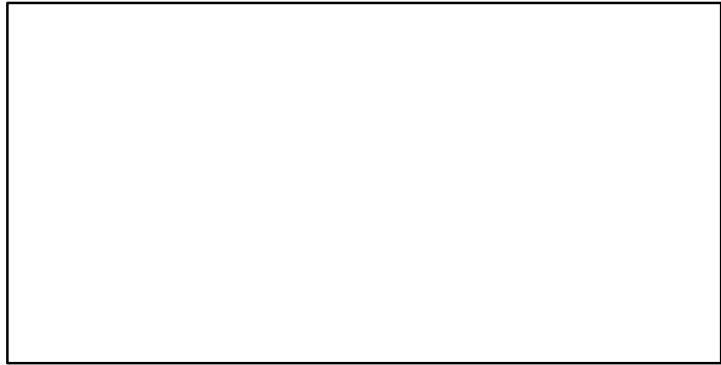
survB\*



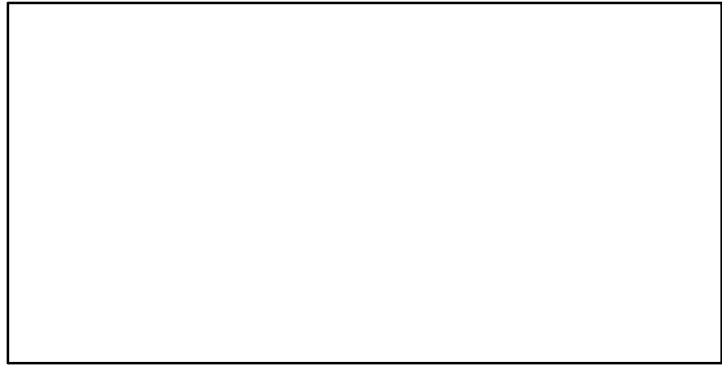
CPUE\*



EFFORT\*



CdivMSY\*



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

## Walleye pollock Sea of Japan North [APOLLNSJ]

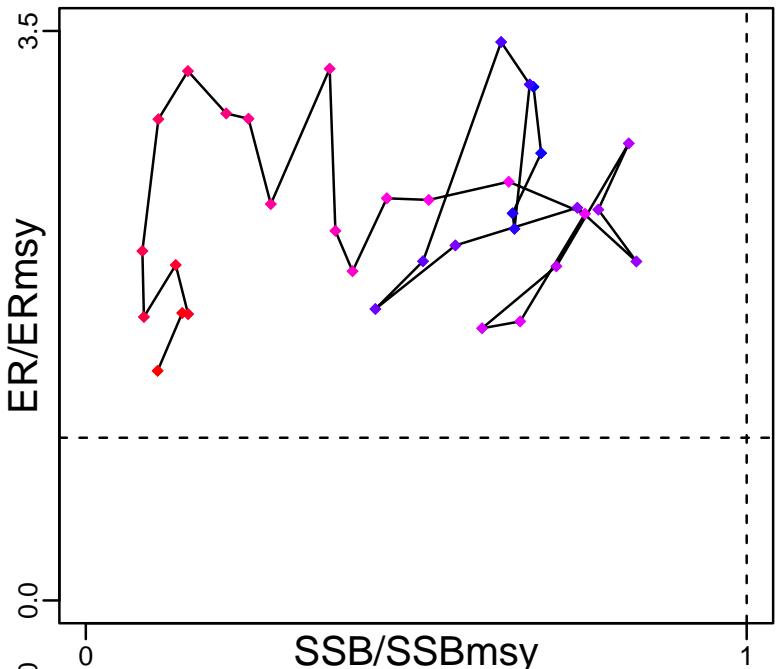
<b>Metadata</b>	
<b>Scientific Name</b>	Theragra chalcogramma
<b>Current Assess ID</b>	FAFRFJ-APOLLNSJ-1970-2013-JPNIMP2016
<b>Area</b>	Sea of Japan North
<b>Management Authority</b>	Fisheries Agency of Japan
<b>Assessor</b>	Fisheries Agency and Fisheries Research Agency of Japan
<b>Asmts in RAM</b>	2013

<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	TBmsy-calc-MT	2013	619,267
<b>SSBmsy</b>	SSBmsy-MT	2013	346,887
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-ratio	2013	0.073
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-MT	2013	45,207
<b>M</b>	M-1/yr	2013	0.25
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

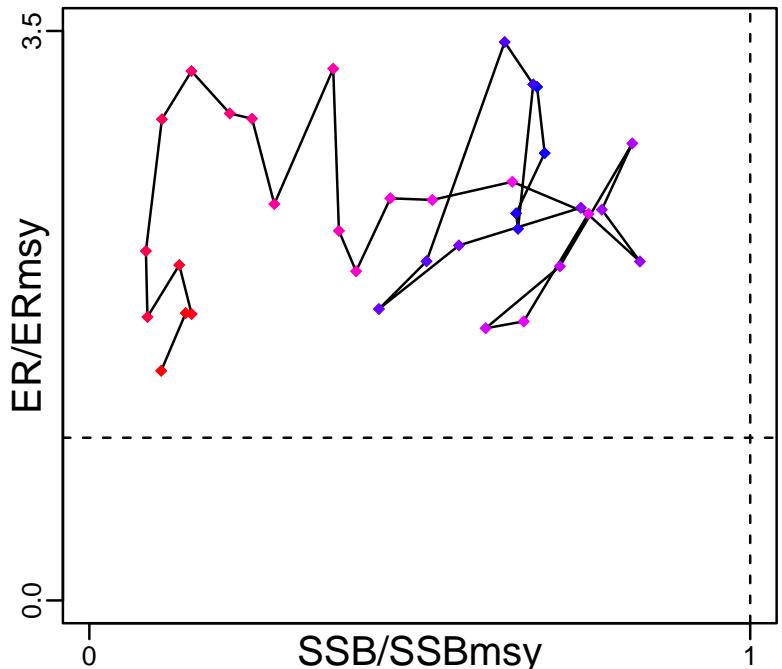
<b>Time Series</b>						
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Curr Value</b>	<b>Sex</b>	<b>Age</b>	
<b>TB</b>	TB-MT	2013	95,800	-	2	
<b>SSB</b>	SSB-MT	2013	37,700	Both	4	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2013	$1.34 \times 10^8$	-	2	
<b>F</b>	-	-	-	-	-	
<b>ER</b>	ER-calc-ratio	2013	0.103	-	-	
<b>TC</b>	TC-MT	2013	9870			
<b>TL</b>	-	-	-			
<b>TB/TBmsy</b>	TB-MT/TBmsy-calc-MT	2013	0.155			
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2013	0.109			
<b>F/Fmsy</b>	-	-	-			
<b>ER/ERmsy</b>	ER-calc-ratio/ERmsy-ratio	2013	1.411			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

Walleye pollock Sea of Japan North [APOLLNSJ]

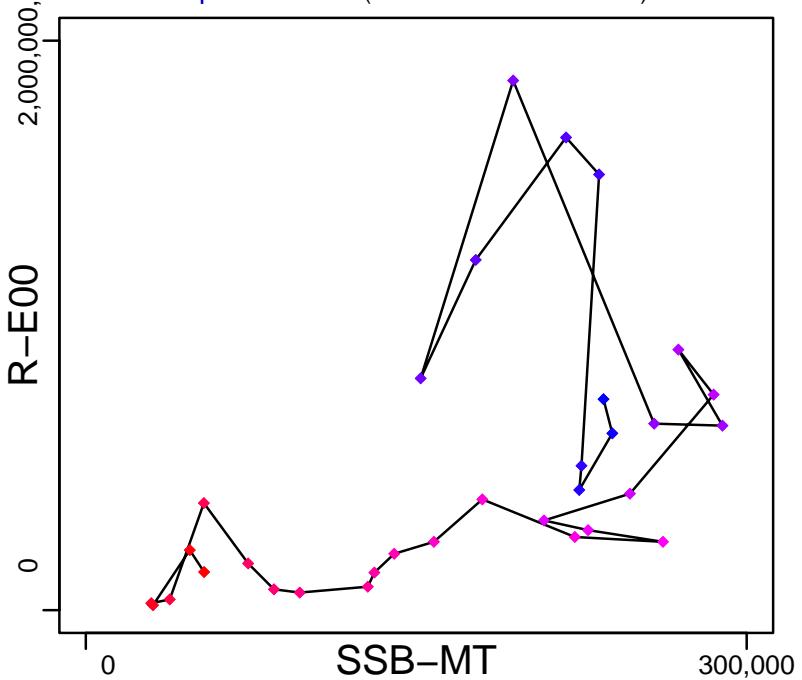
Kobe MSYpref (1970–2013–JPNIMP2016)



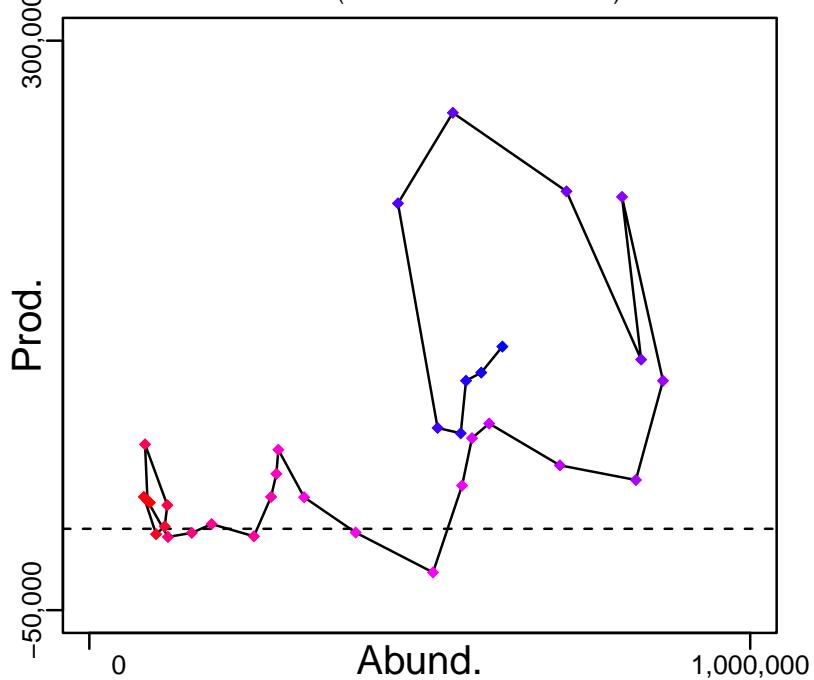
Kobe MGTpref (1970–2013–JPNIMP2016)



Spawner Recruit (1970–2013–JPNIMP2016)



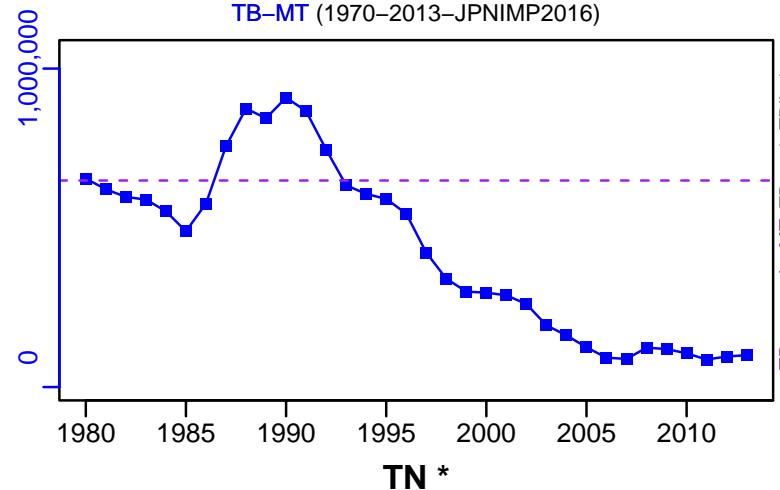
Production (1970–2013–JPNIMP2016)



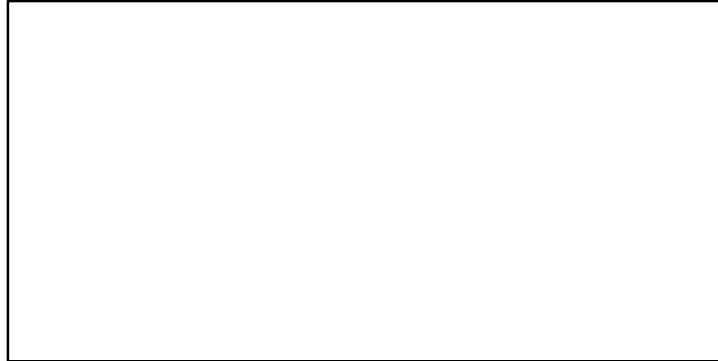
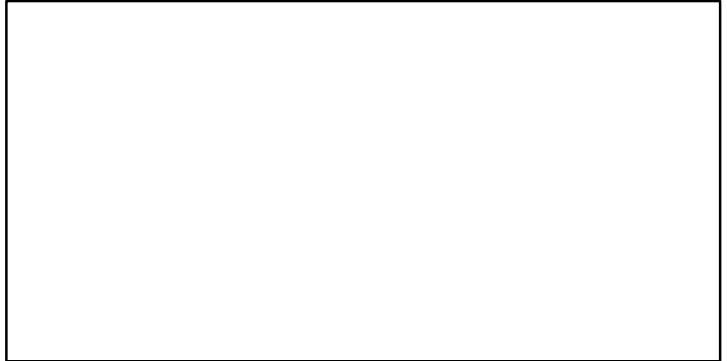
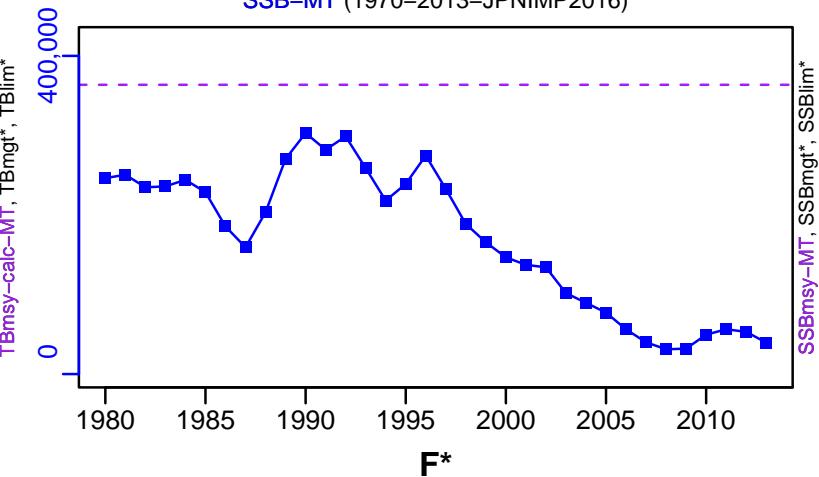
◆ Start Year ♦ End Year \* No Data

Walleye pollock Sea of Japan North [APOLLNSJ]

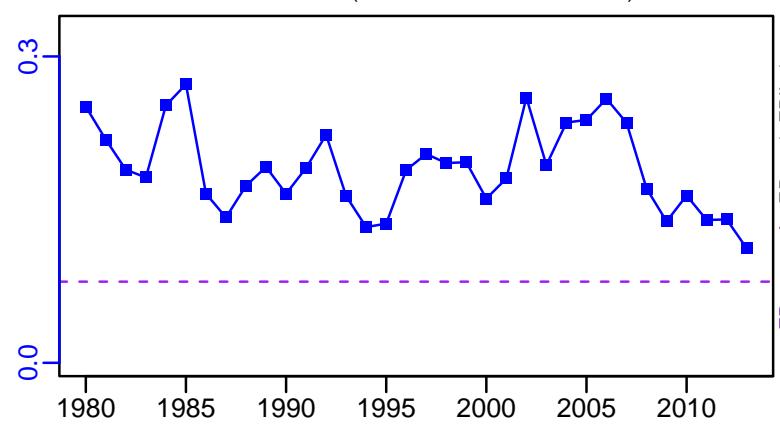
TB-MT (1970–2013–JPNIMP2016)



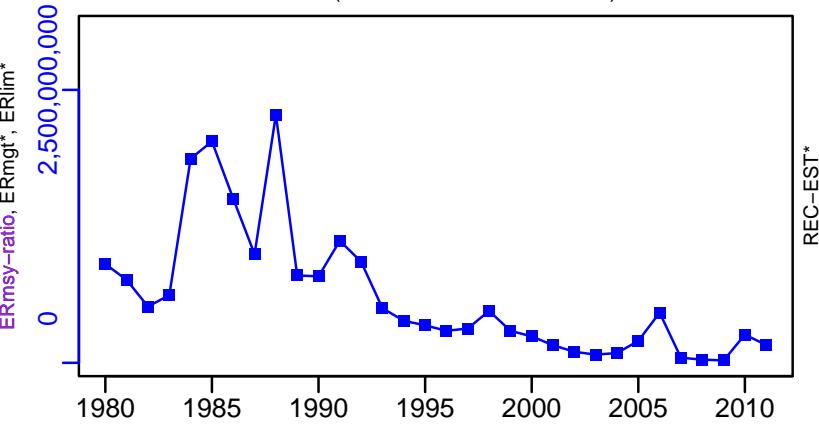
SSB-MT (1970–2013–JPNIMP2016)



ER-calc-ratio (1970–2013–JPNIMP2016)



R-E00 (1970–2013–JPNIMP2016)

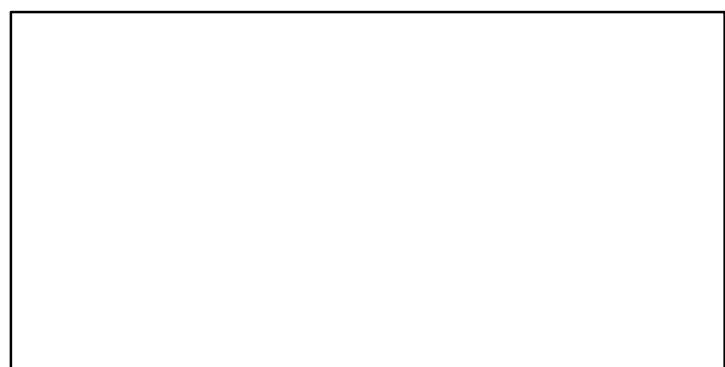
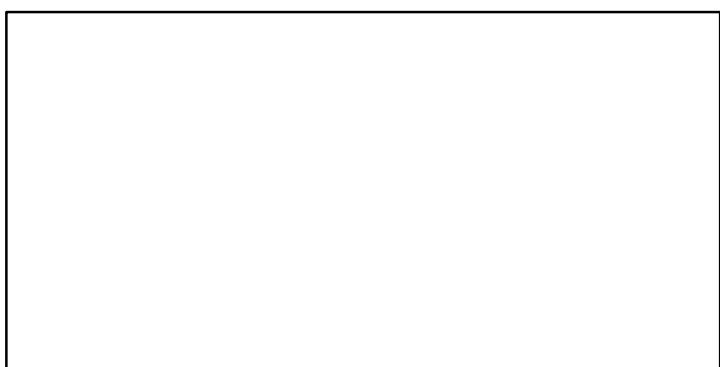
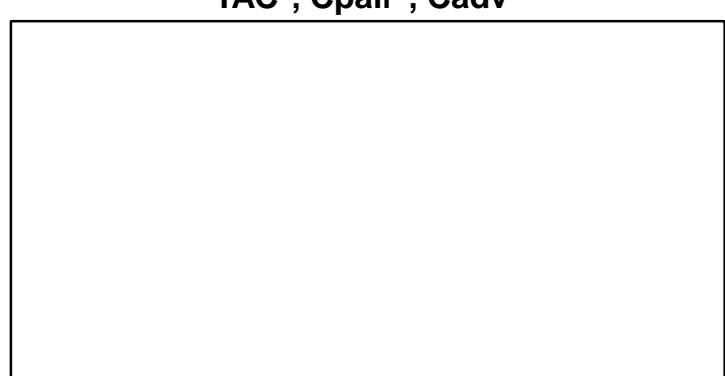
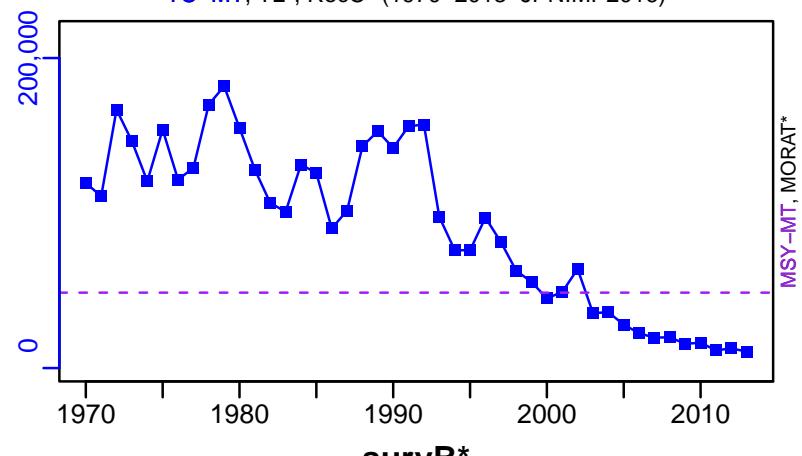


■ Listed time series	— Target BRP	— Rec-Est
— MSY-based BRP	--- Lim BRP	* No Data

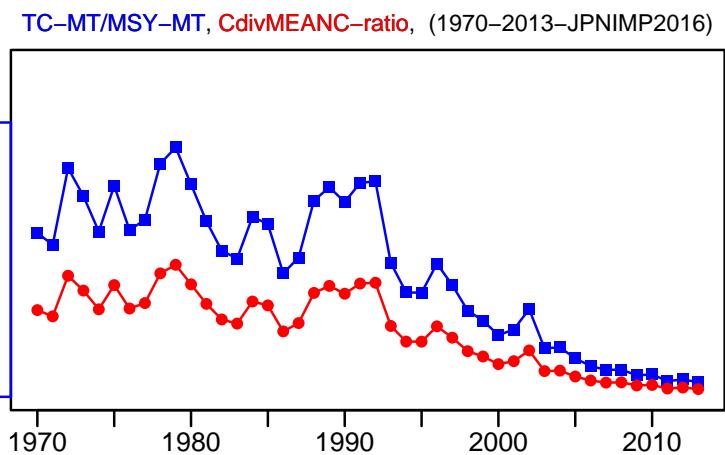
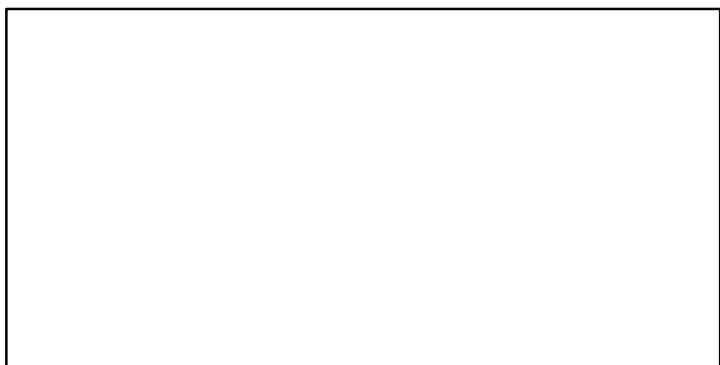
Walleye pollock Sea of Japan North [APOLLNSJ]

TC-MT, TL\*, RecC\* (1970–2013–JPNIMP2016)

TAC\*, Cpair\*, Cadv\*



EFFORT\*



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

## Walleye pollock Okhotsk Sea [APOLLOKS]

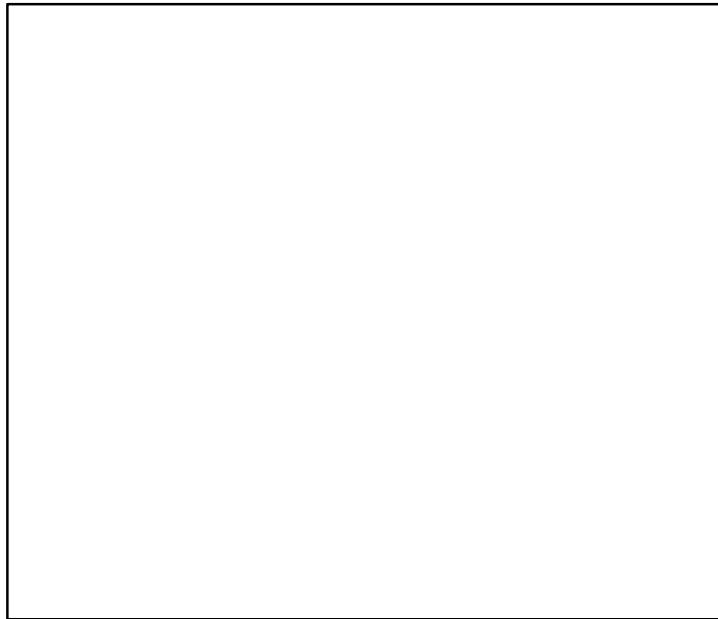
<b>Metadata</b>	
<b>Scientific Name</b>	Theragra chalcogramma
<b>Current Assess ID</b>	FAFRFJ-APOLLOKS-1980-2013-JPNIMP2016
<b>Area</b>	Okhotsk Sea
<b>Management Authority</b>	Fisheries Agency of Japan
<b>Assessor</b>	Fisheries Agency and Fisheries Research Agency of Japan
<b>Asmts in RAM</b>	2013

<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>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	M-1/yr	2013	0.25
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

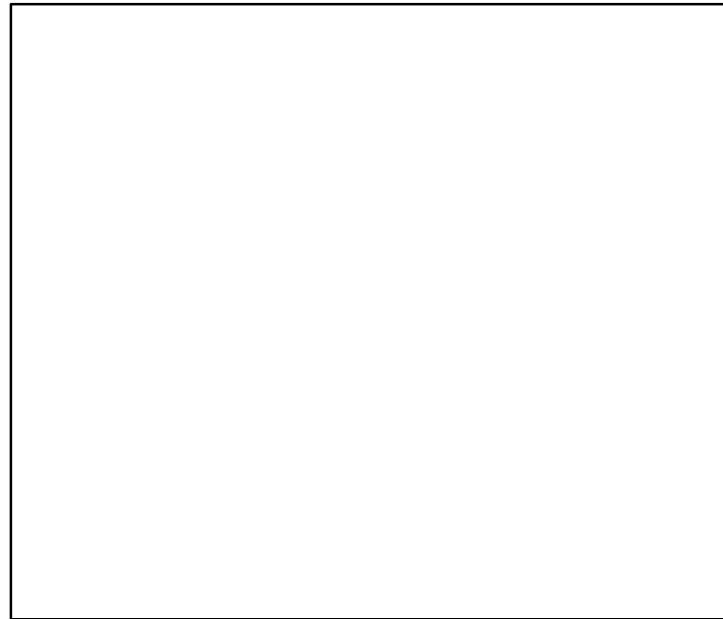
<b>Time Series</b>					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2013	36,400		
<b>TL</b>	-	-	-		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

Walleye pollock Okhotsk Sea [APOLLOKS]

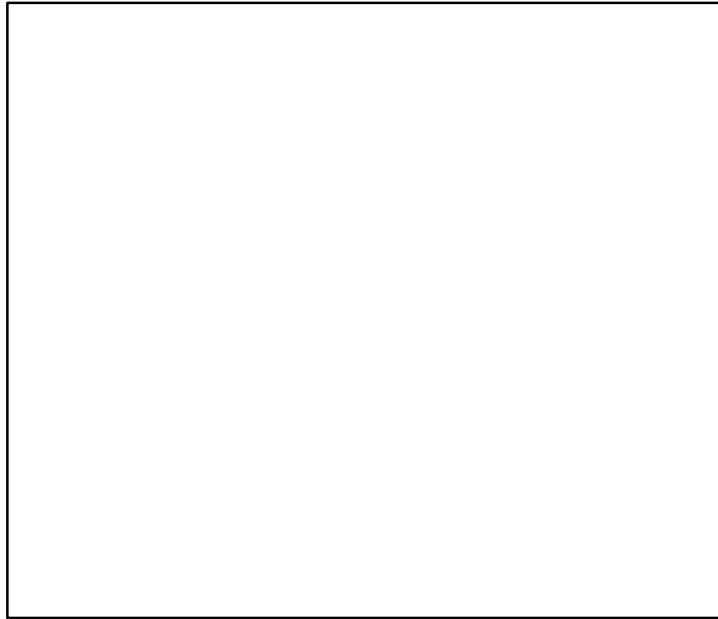
Kobe MSY\*



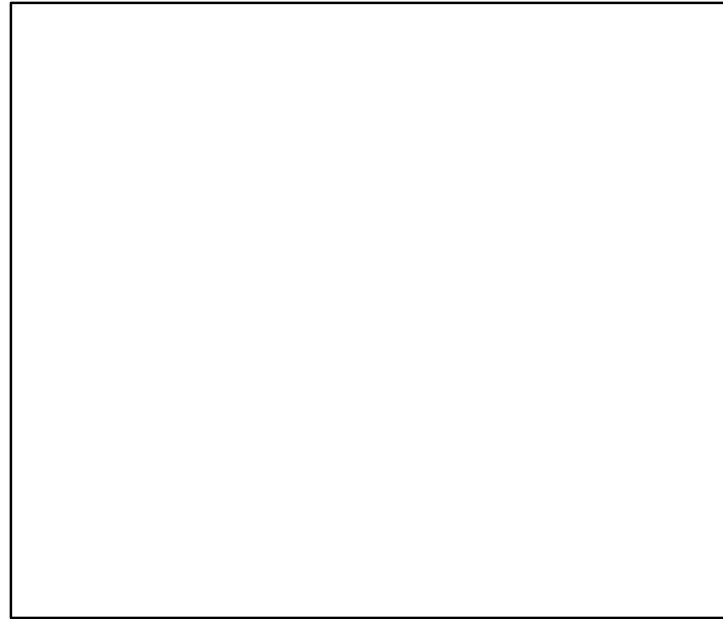
Kobe MGT\*



Spawner Recruit\*



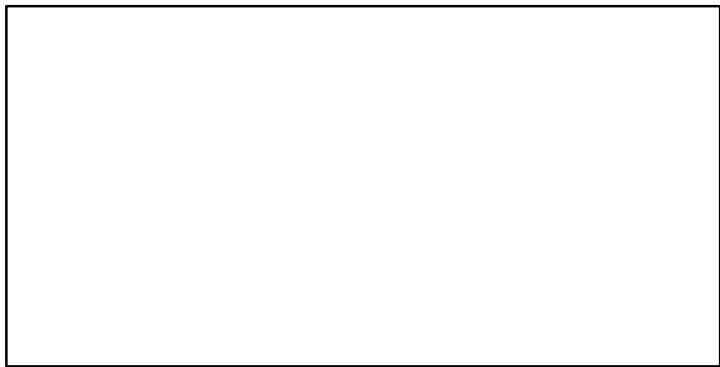
Production\*



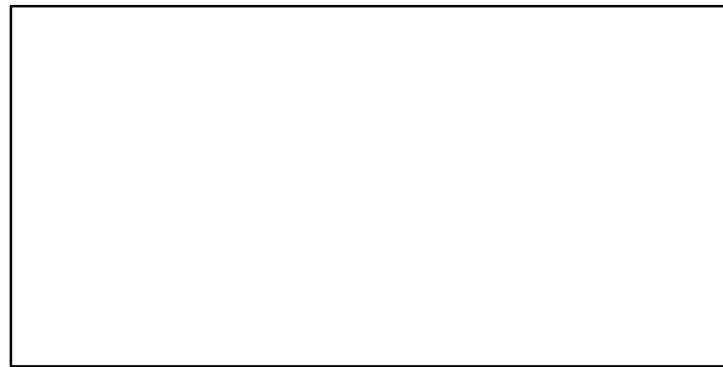
◆ Start Year ♦ End Year \* No Data

Walleye pollock Okhotsk Sea [APOLLOKS]

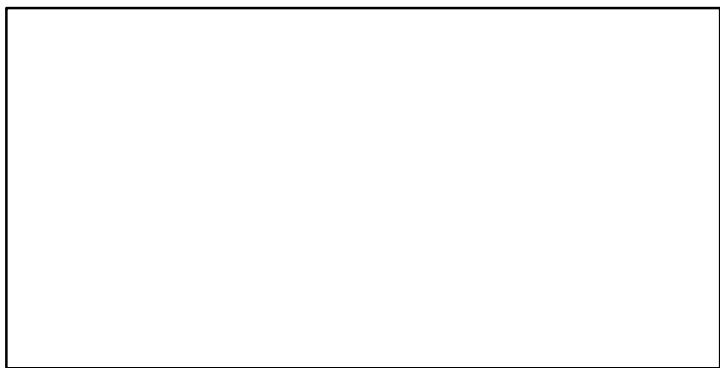
**TB\***



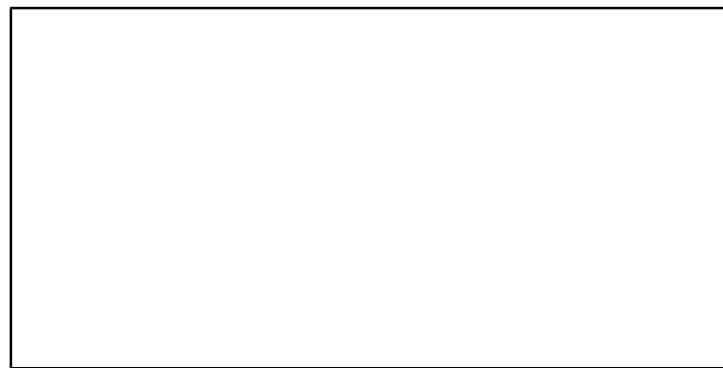
**SSB\***



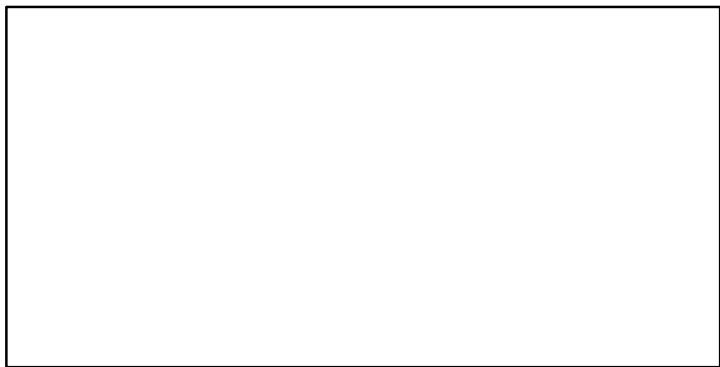
**TN \***



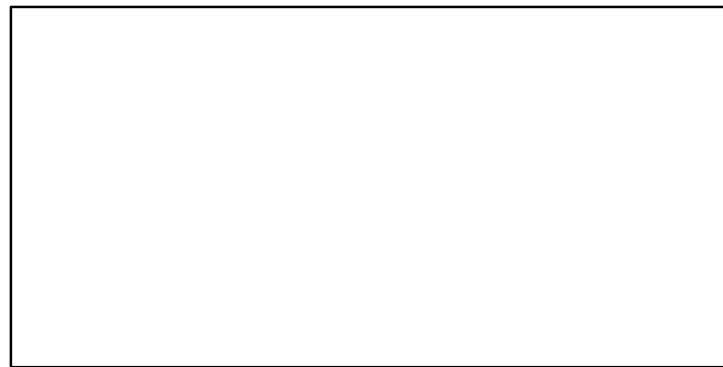
**F\***



**ER\***



**Recruits\***

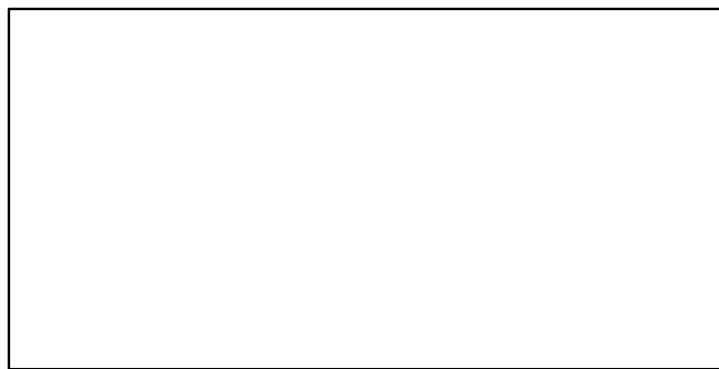
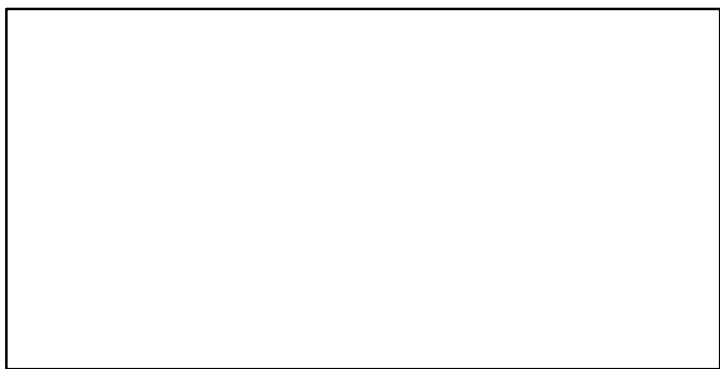
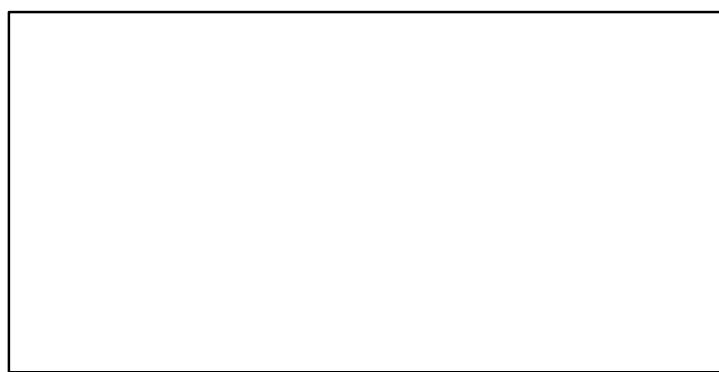
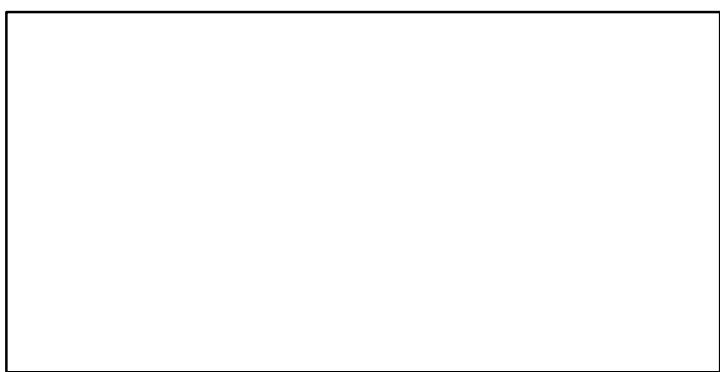
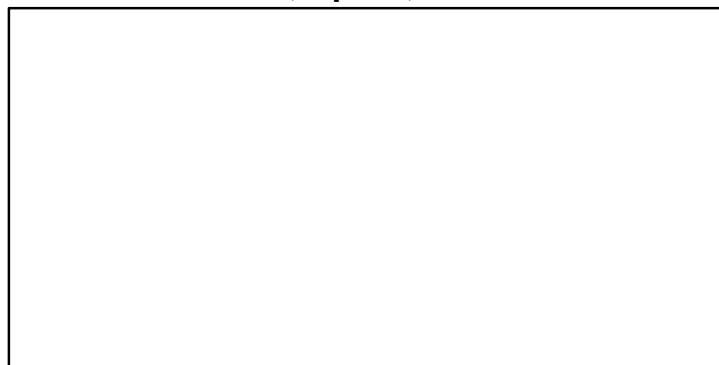
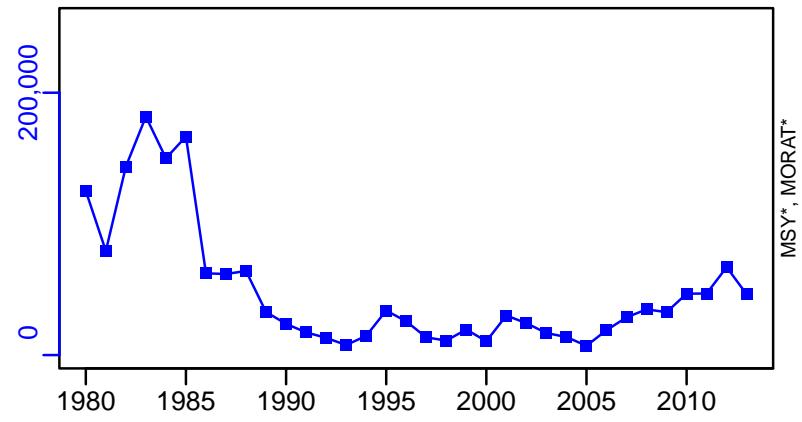


- |                      |                  |           |
|----------------------|------------------|-----------|
| ■ Listed time series | - - - Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP    | * No Data |

Walleye pollock Okhotsk Sea [APOLLOKS]

TC-MT, TL\*, RecC\* (1980–2013–JPNIMP2016)

TAC\*, Cpair\*, Cadv\*



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

## Walleye pollock Pacific Coast of Japan [APOLLPJPN]

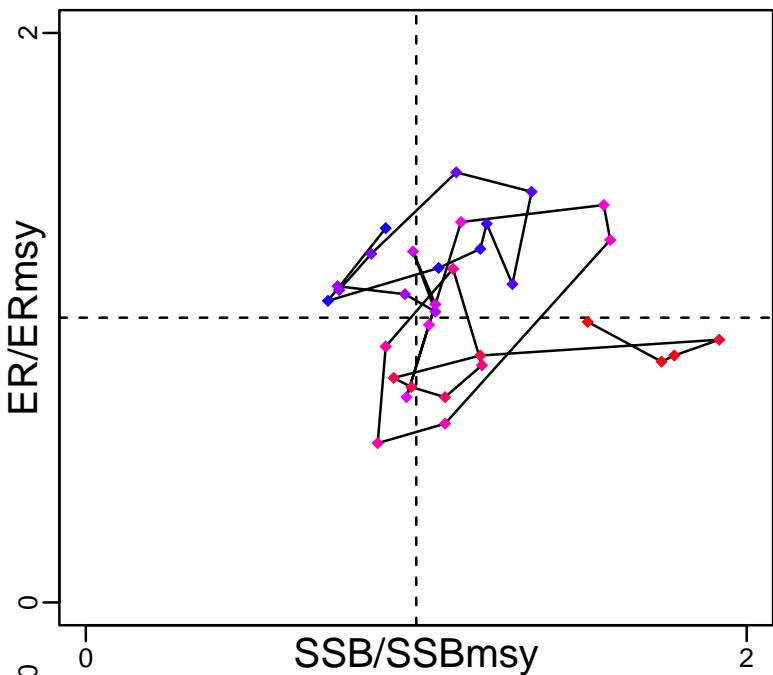
<b>Metadata</b>	
<b>Scientific Name</b>	Theragra chalcogramma
<b>Current Assess ID</b>	FAFRFJ-APOLLPJPN-1975-2013-JPNIMP2016
<b>Area</b>	Pacific Coast of Japan
<b>Management Authority</b>	Fisheries Agency of Japan
<b>Assessor</b>	Fisheries Agency and Fisheries Research Agency of Japan
<b>Asmts in RAM</b>	2013

<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	TBmsy-calc-MT	2013	1,013,493
<b>SSBmsy</b>	SSBmsy-MT	2013	206,052
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-ratio	2013	0.174
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-MT	2013	176,348
<b>M</b>	M-1/yr	2013	0.25
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

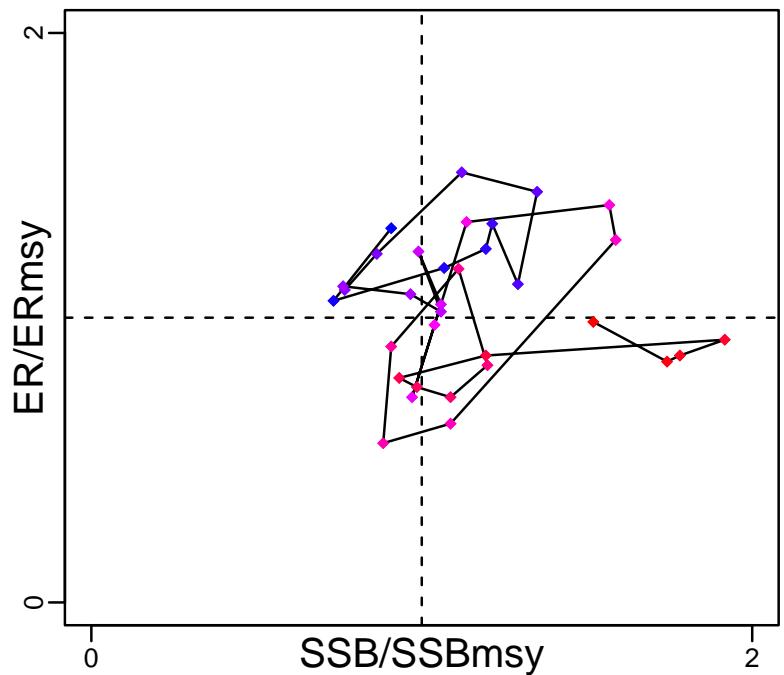
<b>Time Series</b>					
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Curr Value</b>	<b>Sex</b>	<b>Age</b>
<b>TB</b>	TB-MT	2013	910,000	-	0
<b>SSB</b>	SSB-MT	2013	313,000	Both	4
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2013	$1.53 \times 10^9$	-	0
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-calc-ratio	2013	0.171	-	-
<b>TC</b>	TC-MT	2013	156,000		
<b>TL</b>	-	-	-		
<b>TB/TBmsy</b>	TB-MT/TBmsy-calc-MT	2013	0.898		
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2013	1.519		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	ER-calc-ratio/ERmsy-ratio	2013	0.985		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

Walleye pollock Pacific Coast of Japan [APOLLPJPN]

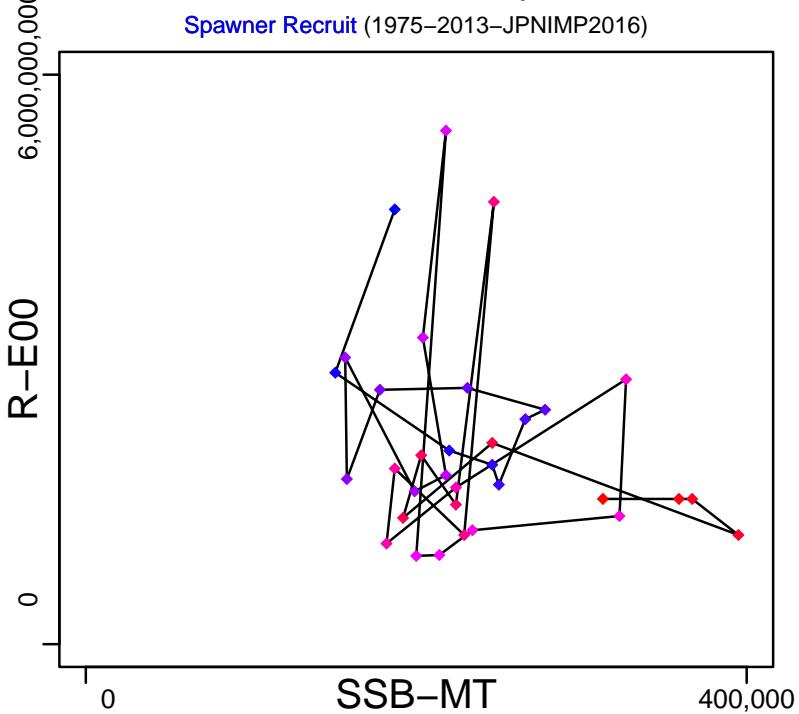
Kobe MSYpref (1975–2013–JPNIMP2016)



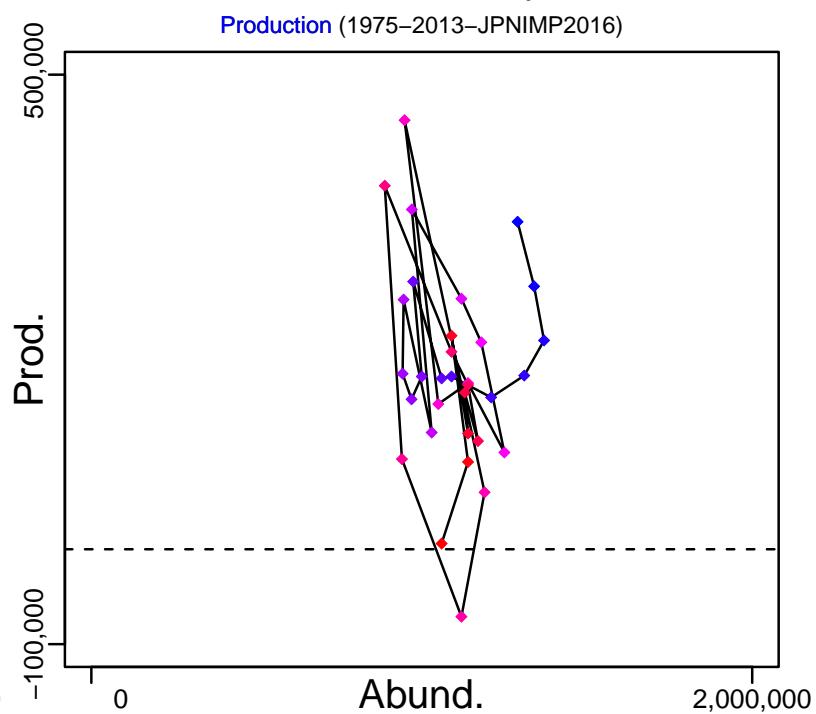
Kobe MGTpref (1975–2013–JPNIMP2016)



Spawner Recruit (1975–2013–JPNIMP2016)



Production (1975–2013–JPNIMP2016)

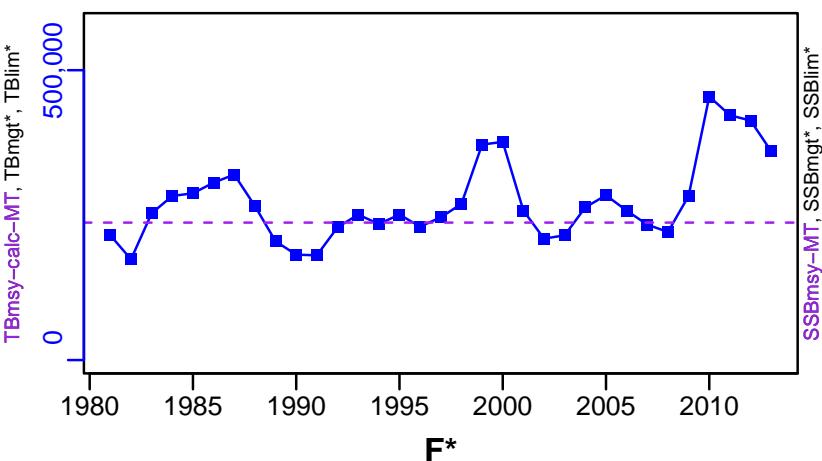
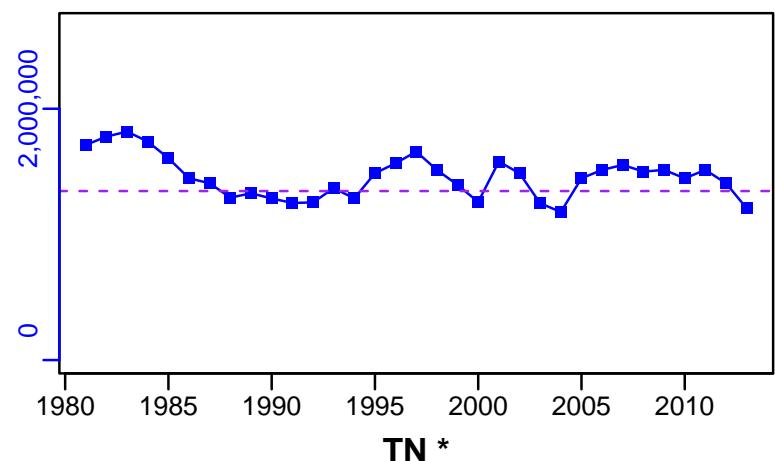


◆ Start Year ♦ End Year \* No Data

Walleye pollock Pacific Coast of Japan [APOLLPJPN]

TB-MT (1975–2013–JPNIMP2016)

SSB-MT (1975–2013–JPNIMP2016)

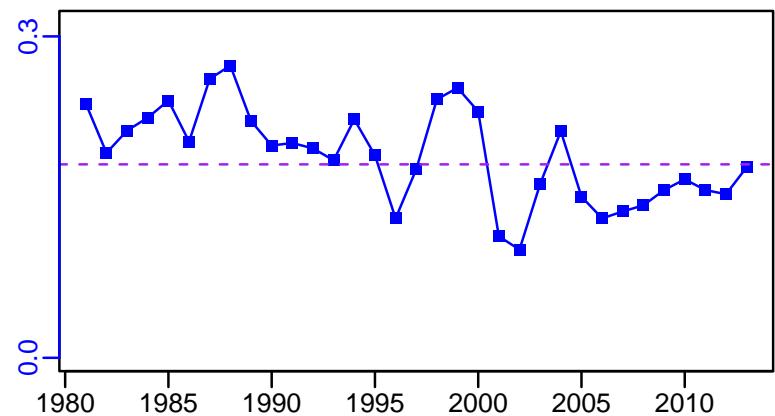


TN \*

F\*

ER-calc-ratio (1975–2013–JPNIMP2016)

R-E00 (1975–2013–JPNIMP2016)



ER<sub>MSY</sub>-ratio, ER<sub>mgmt</sub>, ER<sub>lim</sub>\*

1980 1985 1990 1995 2000 2005 2010

1980 1985 1990 1995 2000 2005 2010

1980 1985 1990 1995 2000 2005 2010

1980 1985 1990 1995 2000 2005 2010

1980 1985 1990 1995 2000 2005 2010

1980 1985 1990 1995 2000 2005 2010

1980 1985 1990 1995 2000 2005 2010

1980 1985 1990 1995 2000 2005 2010

1980 1985 1990 1995 2000 2005 2010

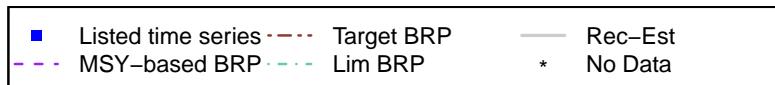
1980 1985 1990 1995 2000 2005 2010

1980 1985 1990 1995 2000 2005 2010

1980 1985 1990 1995 2000 2005 2010

1980 1985 1990 1995 2000 2005 2010

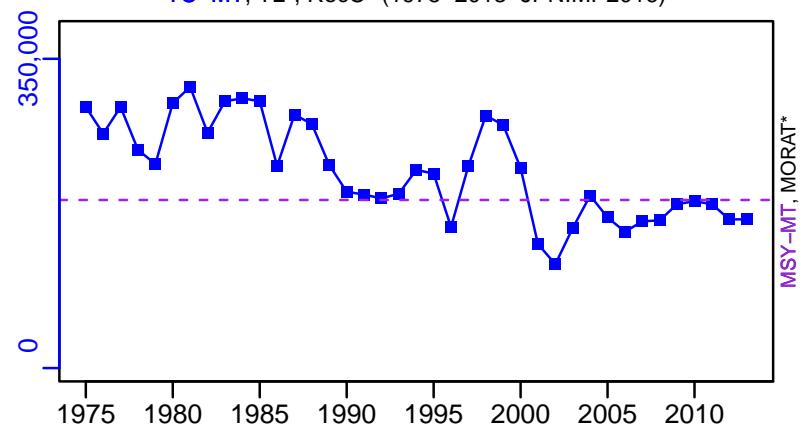
1980 1985 1990 1995 2000 2005 2010



Walleye pollock Pacific Coast of Japan [APOLLPJPN]

TC-MT, TL\*, RecC\* (1975–2013–JPNIMP2016)

TAC\*, Cpair\*, Cadv\*

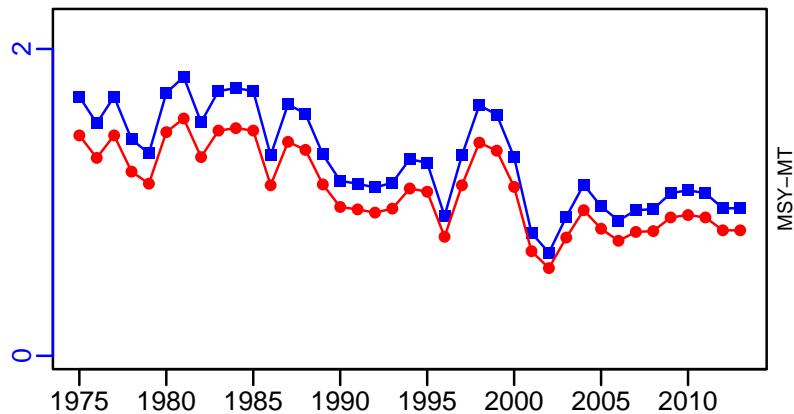
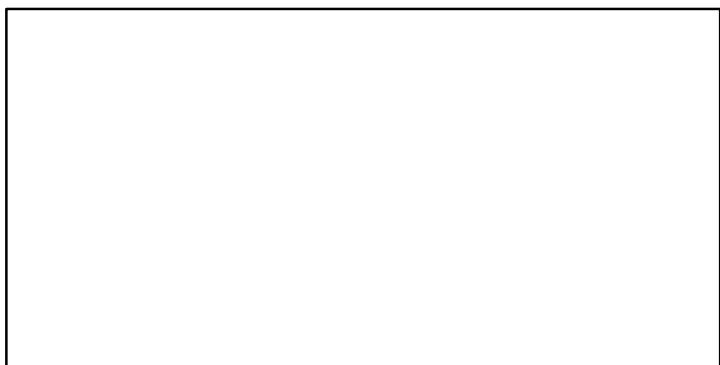


**survB\***

**CPUE\***

**EFFORT\***

TC-MT/MSY-MT, CdivMEANC-ratio, (1975–2013–JPNIMP2016)



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

## Argentine hake Northern Argentina [ARGHAKENARG]

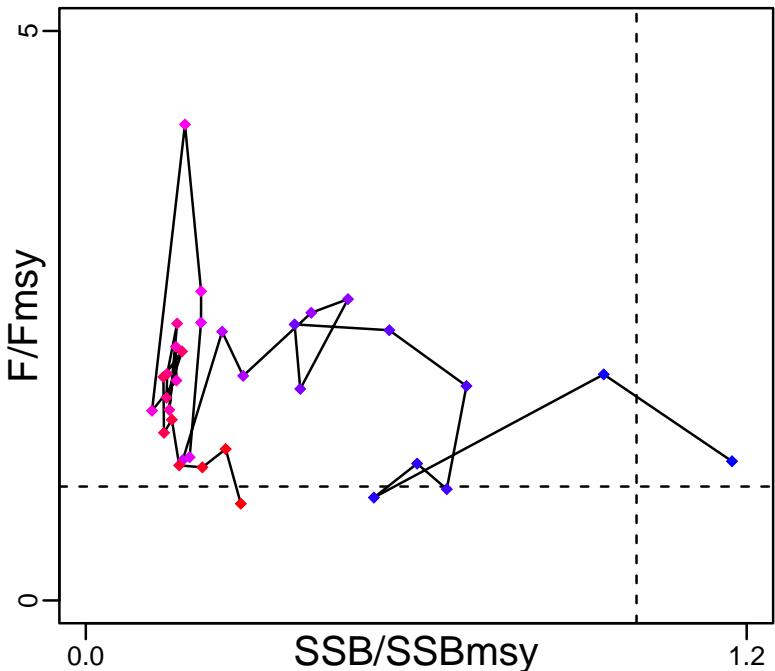
<b>Metadata</b>	
<b>Scientific Name</b>	Merluccius hubbsi
<b>Current Assess ID</b>	INIDEP-ARGHAKENARG-1985-2018-PARMA
<b>Area</b>	Northern Argentina
<b>Management Authority</b>	Consejo Federal Pesquero, Argentina national management
<b>Assessor</b>	Instituto Nacional de Investigacion y Desarrollo Pesquero
<b>Asmts in RAM</b>	2014, 2018, 2011

<b>Reference Points</b>			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	SSBmsy-MT	2018	423,330
<b>Fmsy</b>	Fmsy-1/yr	2018	0.392
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-MT	2018	138,112
<b>M</b>	M-1/yr	2018	0.3
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2014	230,000
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

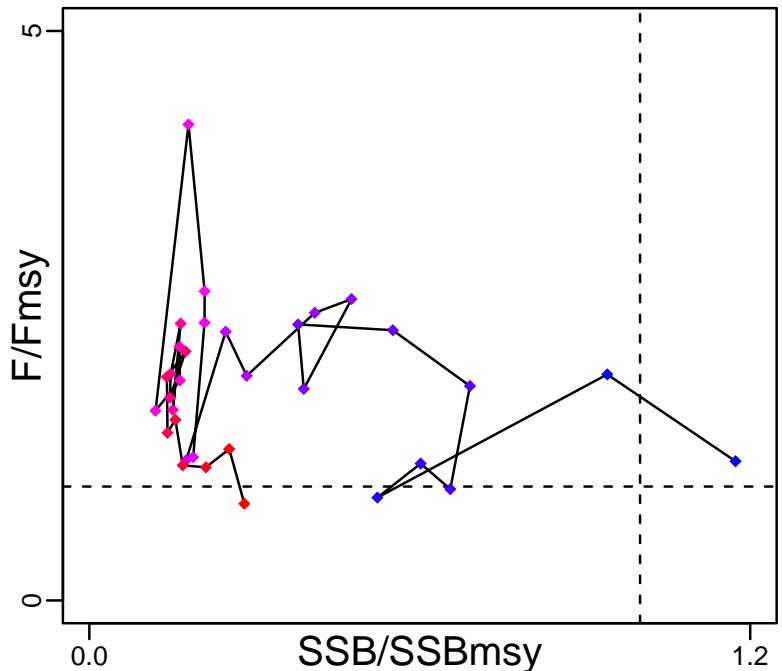
<b>Time Series</b>						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2018	170,125	Both	-	
<b>SSB</b>	SSB-MT	2018	119,165	Both	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2018	300,085,000	-	-	
<b>F</b>	F-1/yr	2018	0.333	Both	6-Mar	
<b>ER</b>	ER-calc-ratio	2018	0.3	-	-	
<b>TC</b>	TC-MT	2018	51,099			
<b>TL</b>	-	-	-			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2018	0.281			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2018	0.849			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

**Argentine hake Northern Argentina [ARGHAKENARG]**

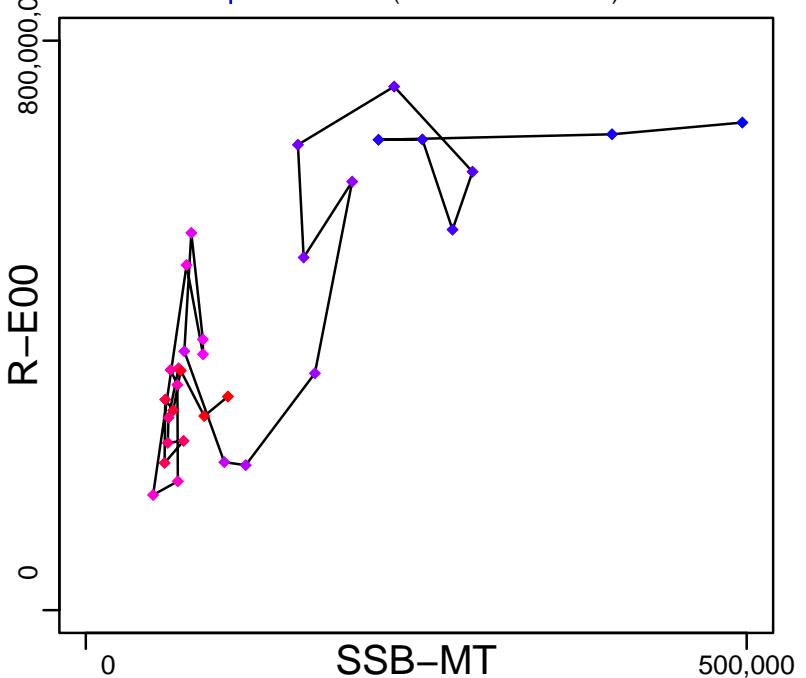
Kobe MSYpref (1985–2018–PARMA)



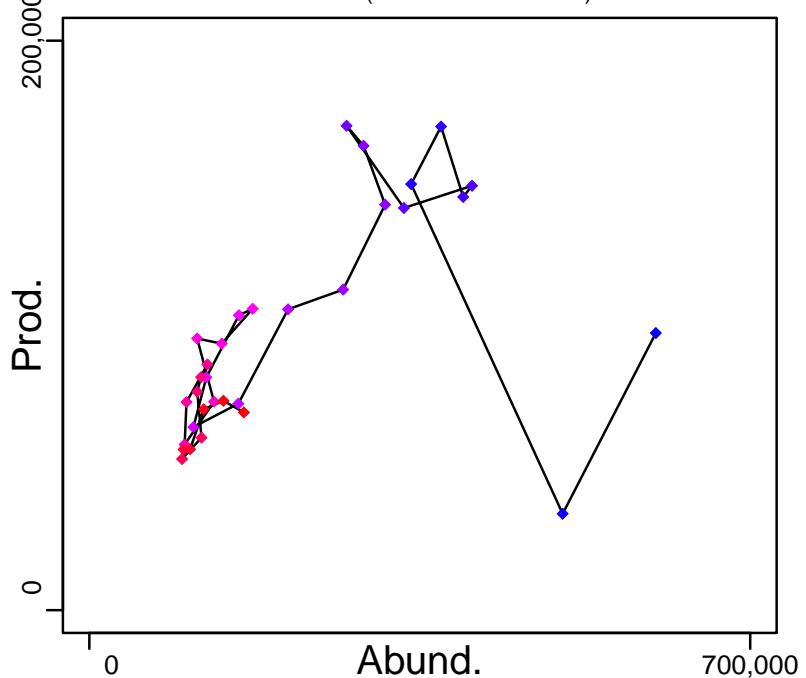
Kobe MGTPref (1985–2018–PARMA)



Spawner Recruit (1985–2018–PARMA)



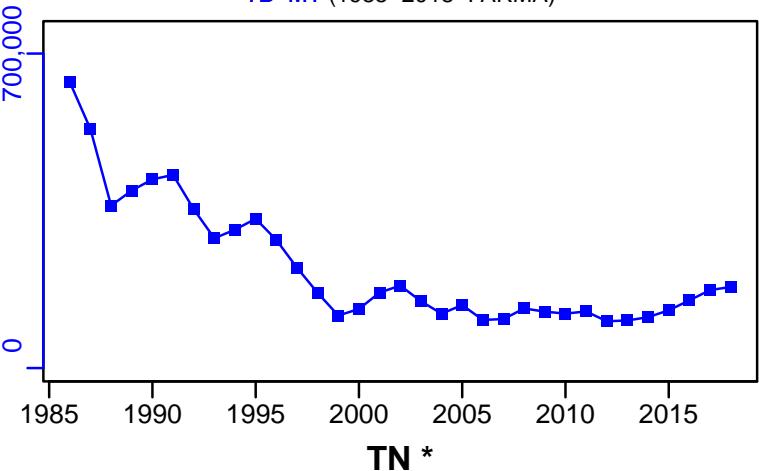
Production (1985–2018–PARMA)



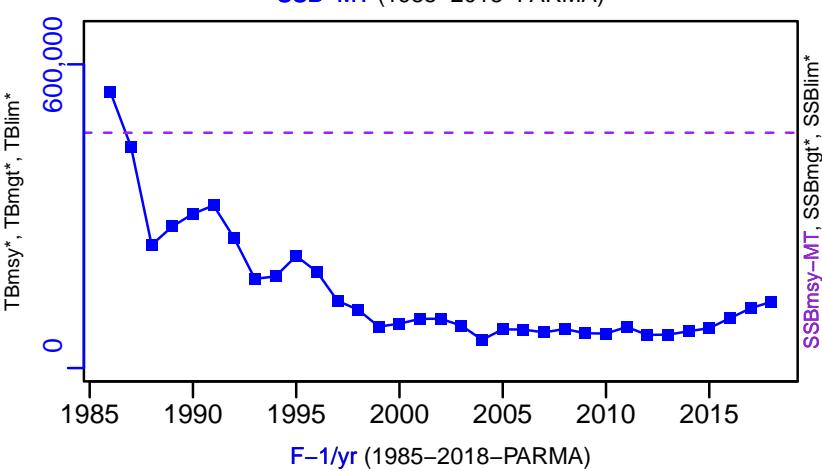
◆ Start Year  
 ◆ End Year  
 \* No Data

**Argentine hake Northern Argentina [ARGHAKENARG]**

TB-MT (1985–2018-PARMA)



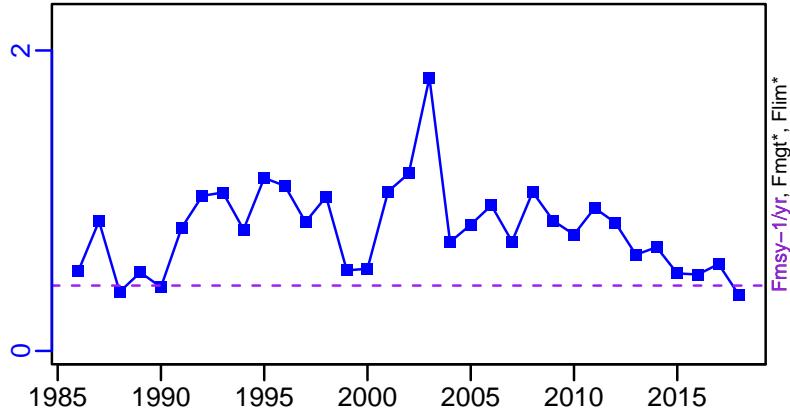
SSB-MT (1985–2018-PARMA)



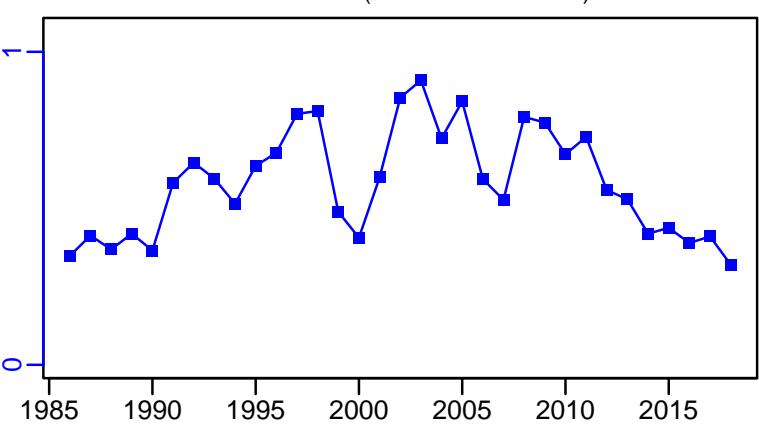
TN \*



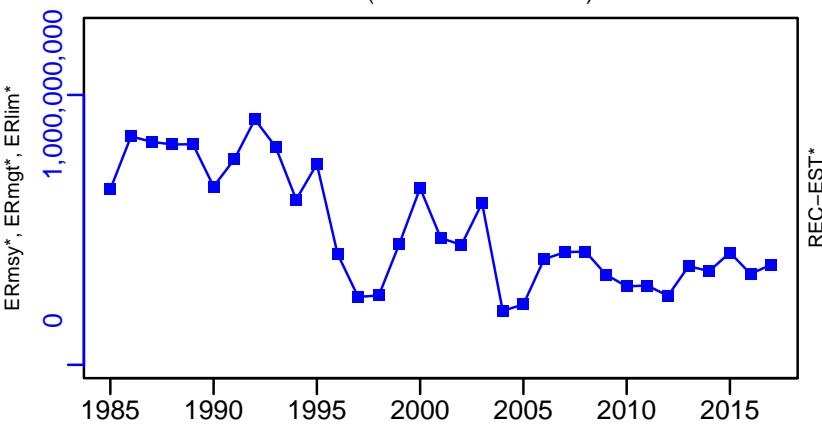
F-1/yr (1985–2018-PARMA)



ER-calc-ratio (1985–2018-PARMA)



R-E00 (1985–2018-PARMA)

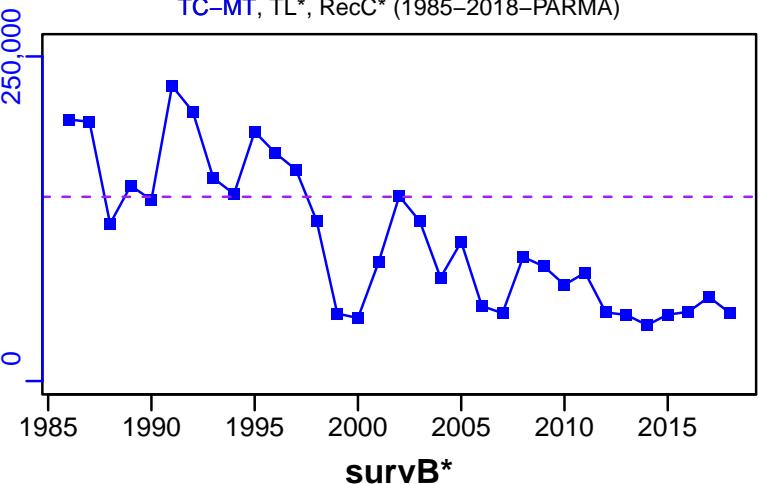


REC-EST\*

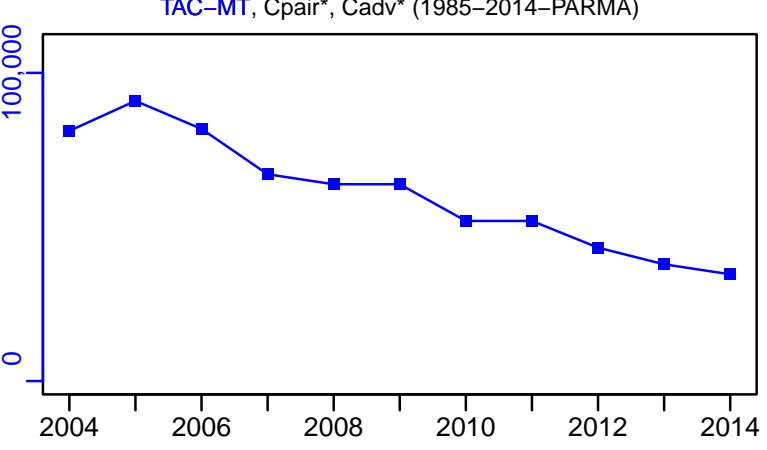
- |                                       |                    |                                      |            |                                     |         |
|---------------------------------------|--------------------|--------------------------------------|------------|-------------------------------------|---------|
| <span style="color: blue;">█</span>   | Listed time series | <span style="color: brown;">—</span> | Target BRP | <span style="color: gray;">—</span> | Rec-Est |
| <span style="color: purple;">—</span> | MSY-based BRP      | <span style="color: cyan;">—</span>  | Lim BRP    | *                                   | No Data |

**Argentine hake Northern Argentina [ARGHAKENARG]**

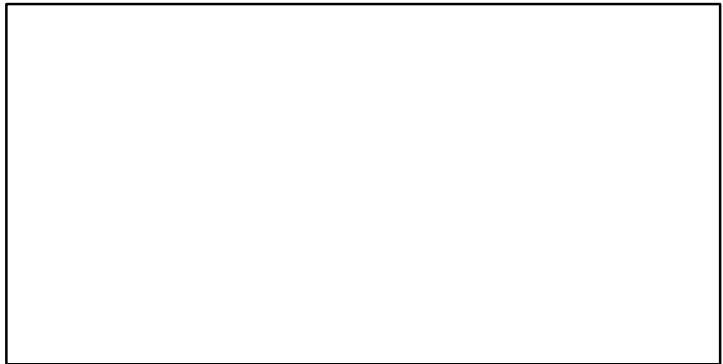
TC-MT, TL\*, RecC\* (1985–2018–PARMA)



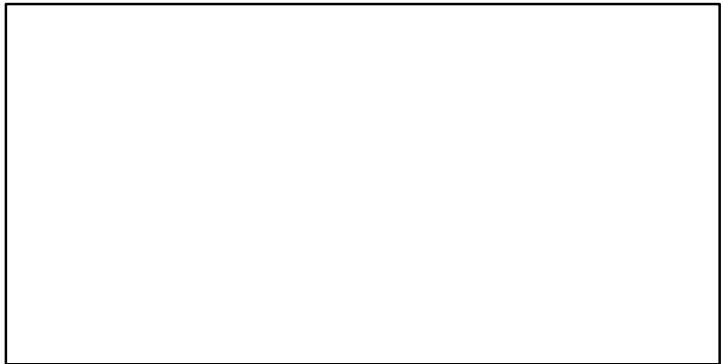
TAC-MT, Cpair\*, Cadv\* (1985–2014–PARMA)



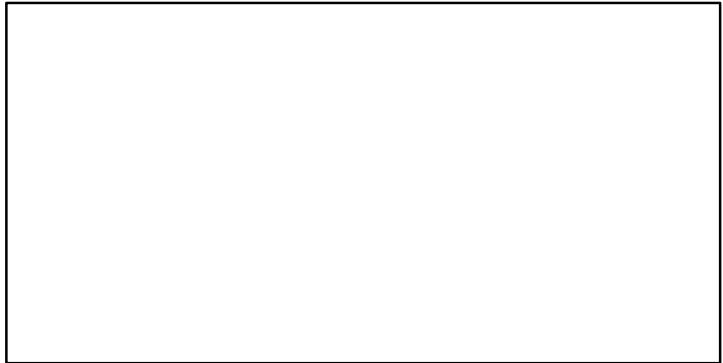
**survB\***



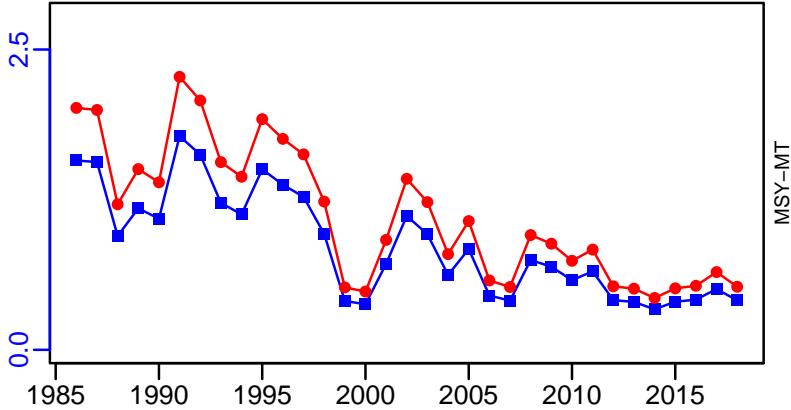
**CPUE\***



**EFFORT\***



TC-MT/MSY-MT, CdivMEANC-ratio, (1985–2018–PARMA)



MSY-MT

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

## Argentine hake Southern Argentina [ARGHAKESARG]

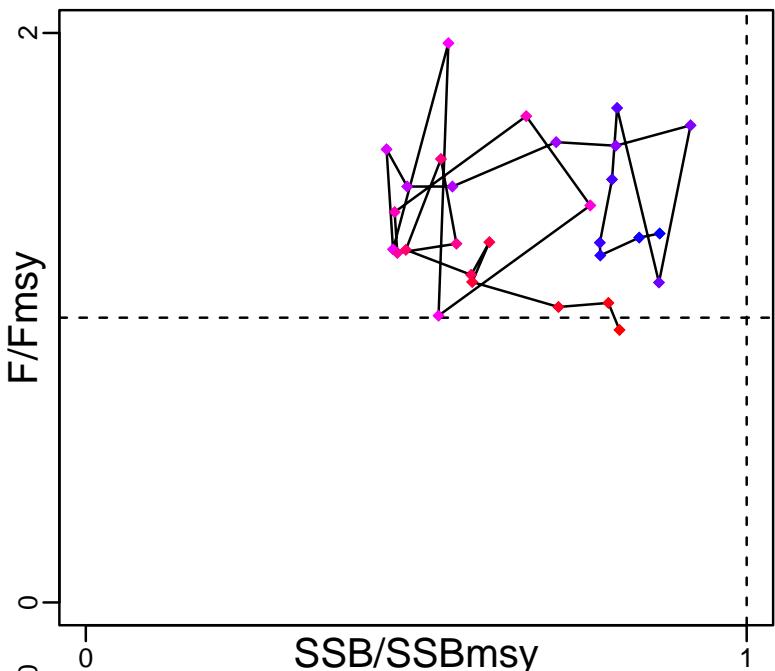
<b>Metadata</b>	
<b>Scientific Name</b>	Merluccius hubbsi
<b>Current Assess ID</b>	INIDEP-ARGHAKESARG-1989-2019-Parma
<b>Area</b>	Southern Argentina
<b>Management Authority</b>	Consejo Federal Pesquero, Argentina national management
<b>Assessor</b>	Instituto Nacional de Investigacion y Desarrollo Pesquero
<b>Asmts in RAM</b>	2015, 2019, 2011

<b>Reference Points</b>				
Type	ID	Asmt Year	Value	
<b>TBmsy</b>	-	-	-	
<b>SSBmsy</b>	SSBmsy-MT	2019	668,386	
<b>Fmsy</b>	Fmsy-1/yr	2019	0.558	
<b>ERmsy</b>	-	-	-	
<b>TBmgt</b>	-	-	-	
<b>SSBmgt</b>	SSBmgt-MT	2019	$6 \times 10^5$	
<b>Fmgt</b>	-	-	-	
<b>ERmgt</b>	-	-	-	
<b>TB0</b>	-	-	-	
<b>SSB0</b>	-	-	-	
<b>MSY</b>	MSY-MT	2019	527,521	
<b>M</b>	M-1/yr	2019	0.3	
<b>TBlim</b>	-	-	-	
<b>SSBlim</b>	-	-	-	
<b>Flim</b>	-	-	-	
<b>ERlim</b>	-	-	-	

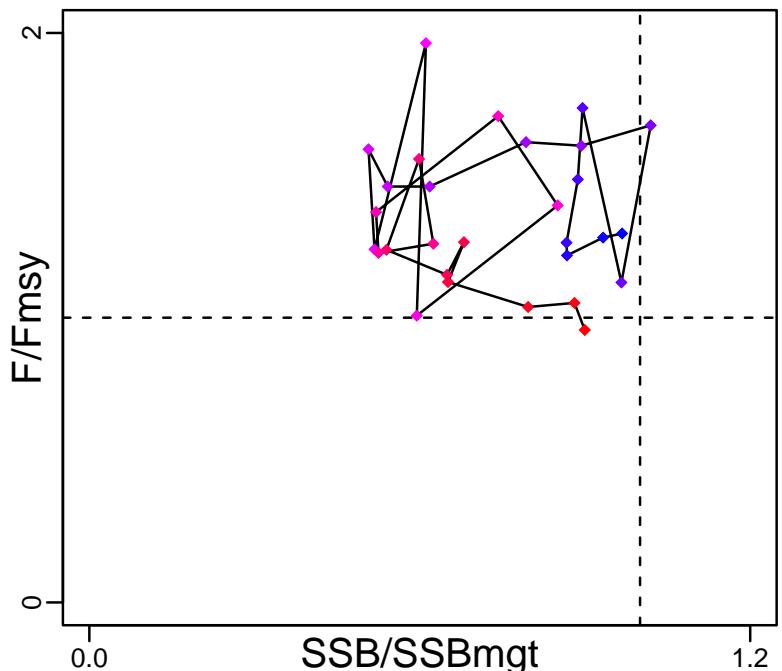
<b>Time Series</b>						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2019	885,210	-	-	
<b>SSB</b>	SSB-MT	2019	539,759	Both	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2019	1,909,620,000	-	1	
<b>F</b>	F-1/yr	2019	0.534	Both	6-Mar	
<b>ER</b>	ER-ratio	2019	0.779	Both	-	
<b>TC</b>	TC-MT	2019	420,278			
<b>TL</b>	TL-MT	2019	309,862			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2019	0.808			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2019	0.957			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2019	0.9			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

**Argentine hake Southern Argentina [ARGHAKESARG]**

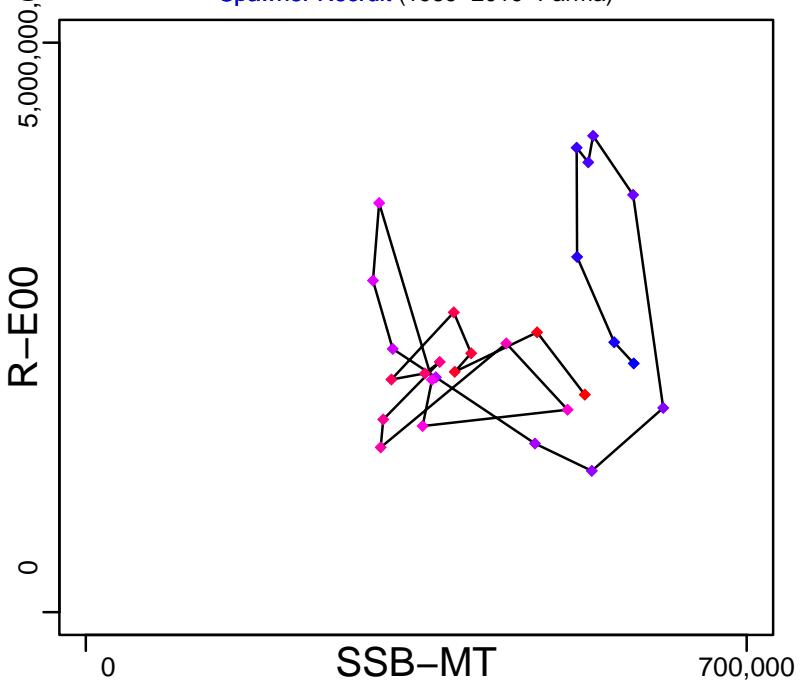
Kobe MSYpref (1989–2019–Parma)



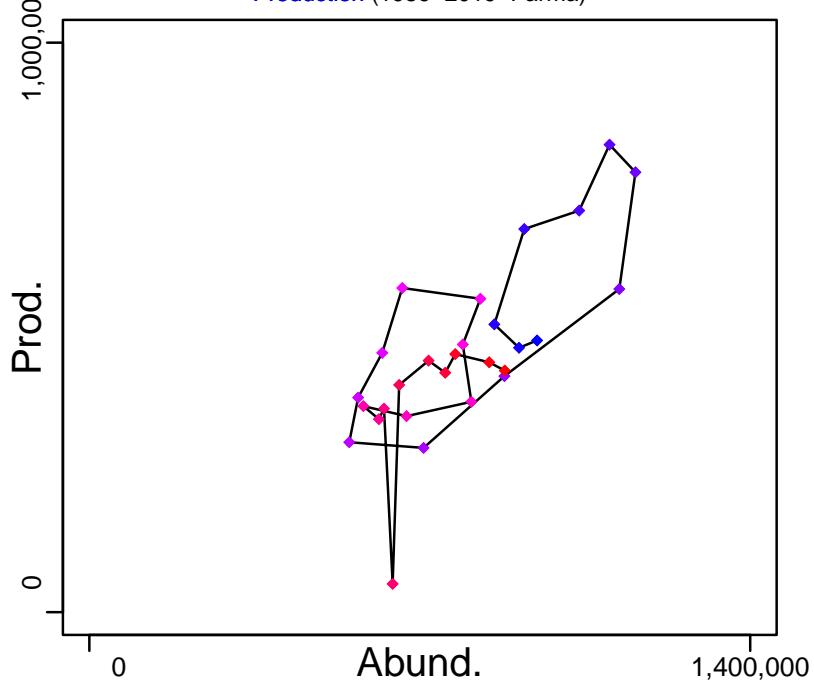
Kobe MGTPref (1989–2019–Parma)



Spawner Recruit (1989–2019–Parma)



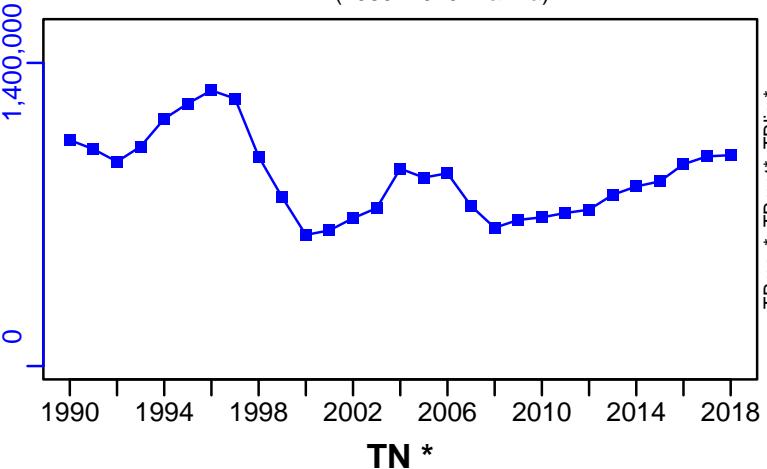
Production (1989–2019–Parma)



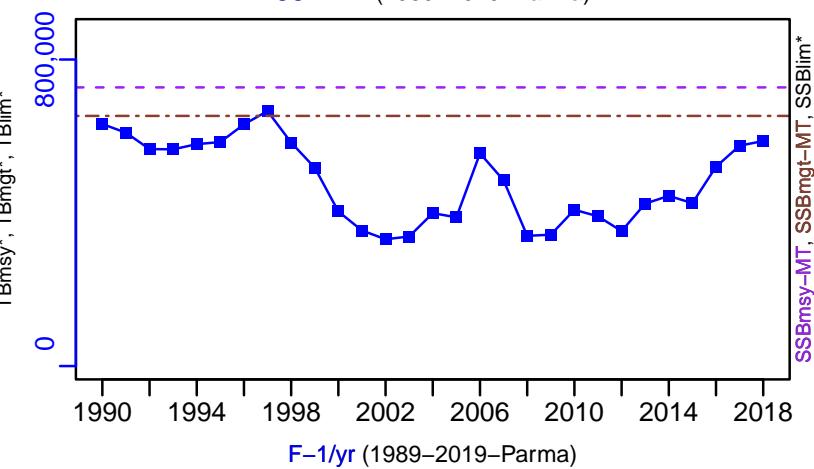
◆ Start Year   ◆ End Year   \* No Data

### Argentine hake Southern Argentina [ARGHAKESARG]

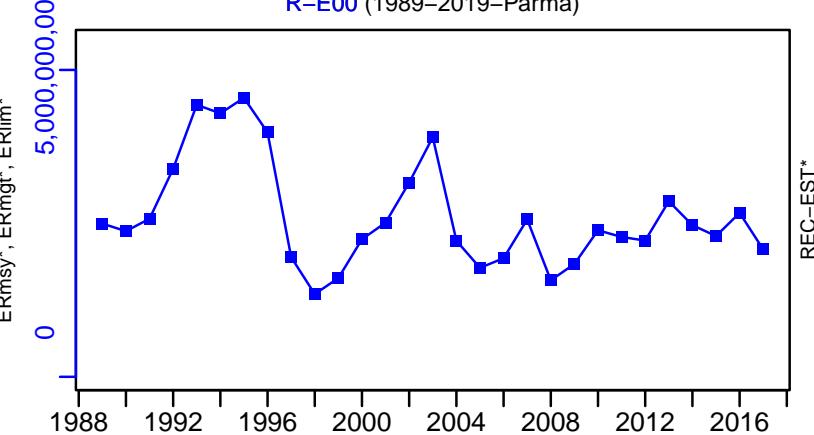
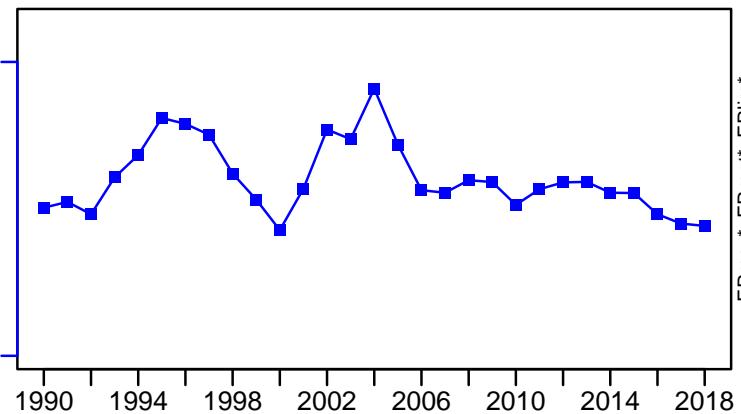
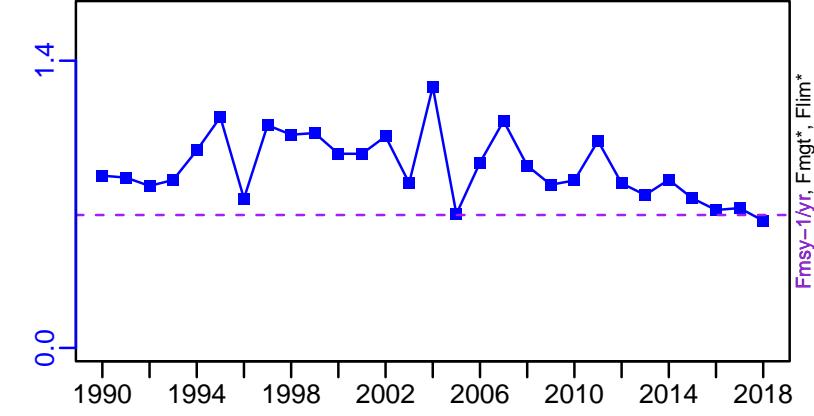
TB-MT (1989–2019–Parma)



SSB-MT (1989–2019–Parma)



ER-ratio (1989–2019–Parma)

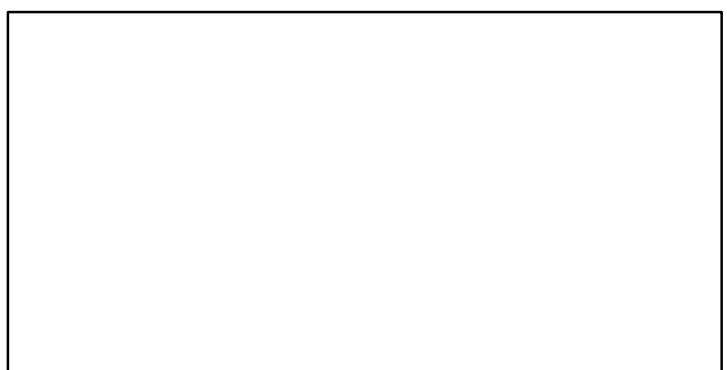
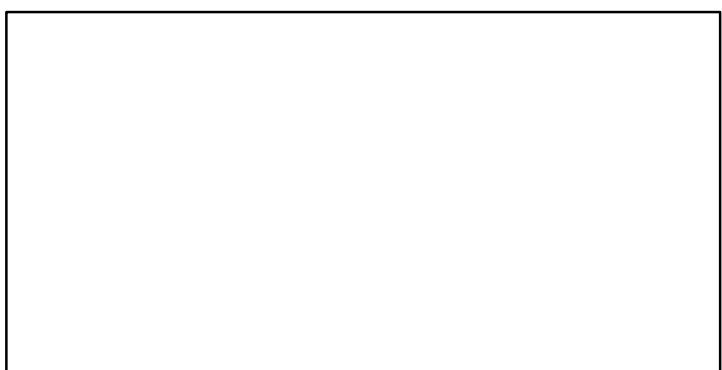
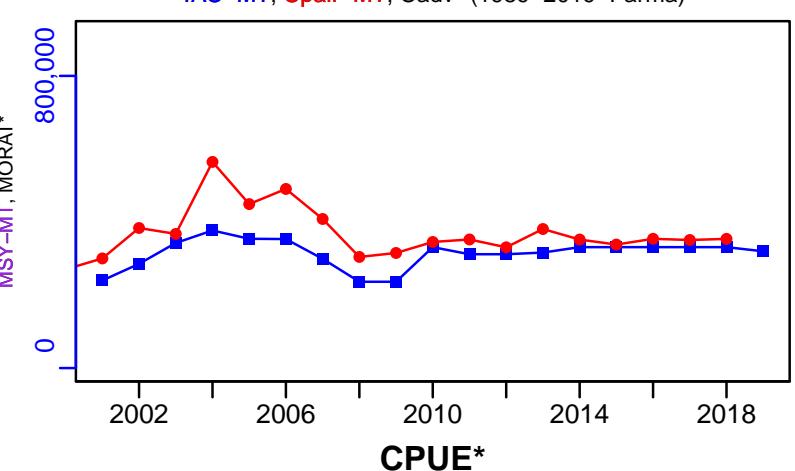
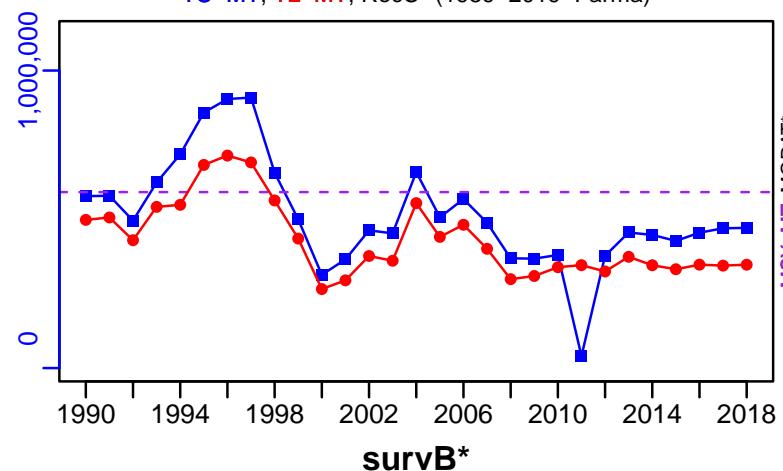


■ Listed time series	— Target BRP	— Rec-Est
— MSY-based BRP	--- Lim BRP	* No Data

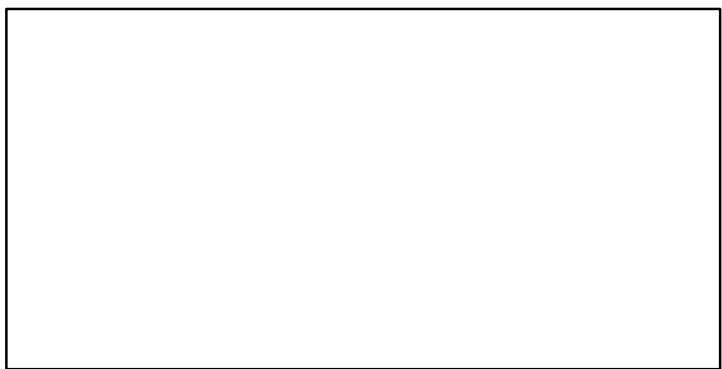
**Argentine hake Southern Argentina [ARGHAKESARG]**

TC-MT, TL-MT, RecC\* (1989–2019–Parma)

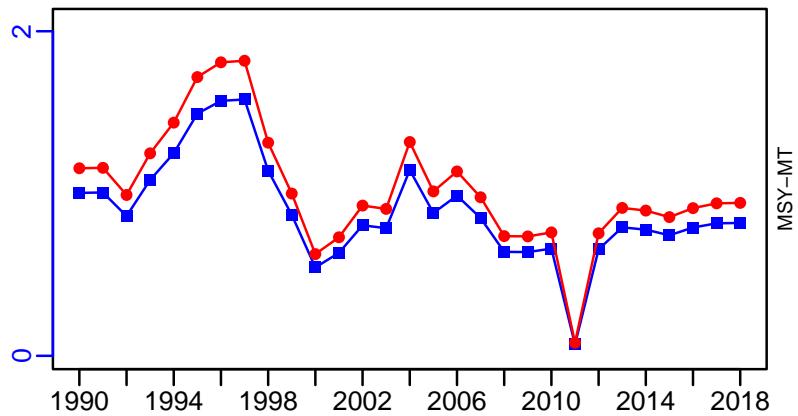
TAC-MT, Cpair-MT, Cadv\* (1989–2019–Parma)



**EFFORT\***



TC-MT/MSY-MT, CdivMEANC-ratio, (1989–2019–Parma)



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

## Blue grenadier New South Wales to Western Australia [BGRDRNSWWA]

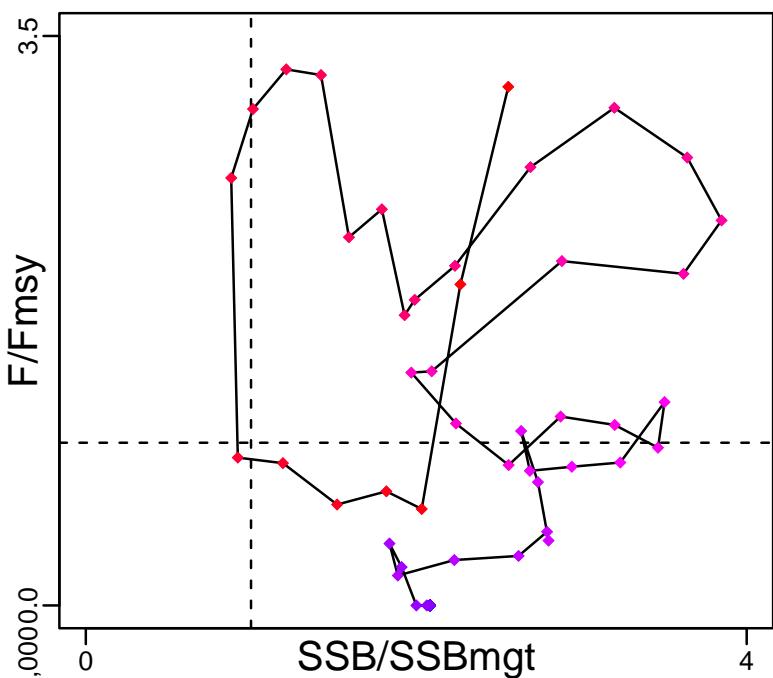
<b>Metadata</b>	
<b>Scientific Name</b>	Macruronus novaezelandiae
<b>Current Assess ID</b>	CSIRO-BGRDRNSWWA-1960-2020-MOESENEDER
<b>Area</b>	New South Wales to Western Australia
<b>Management Authority</b>	Australian Fisheries Management Authority, Australia national management
<b>Assessor</b>	Commonwealth Scientific and Industrial Research Organization
<b>Asmts in RAM</b>	2012, 2017, 2020

<b>Reference Points</b>			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	SSBmsy-MT	2017	14,341
<b>Fmsy</b>	Fmsy-1/yr	2020	0.174
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2020	17,974
<b>Fmgt</b>	Fmgt-1/yr	2020	0.143
<b>ERmgt</b>	-	-	-
<b>TB0</b>	TB0-MT	2020	99,797
<b>SSB0</b>	SSB0-MT	2020	37,445
<b>MSY</b>	MSY-MT	2017	5506
<b>M</b>	M-1/yr	2017	0.178
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2020	7489
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

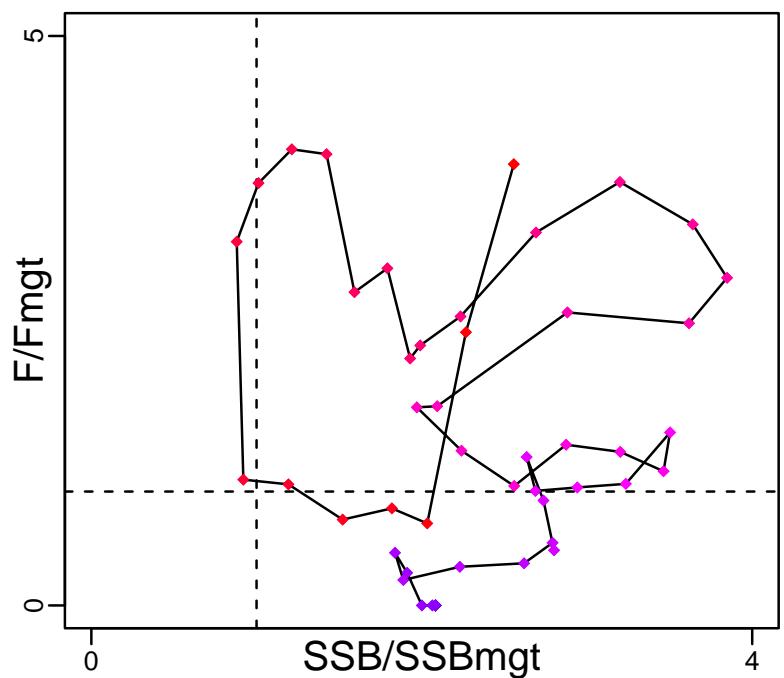
<b>Time Series</b>					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2020	161,744	-	-
<b>SSB</b>	SSB-MT	2020	45,960	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2020	$2.01 \times 10^{13}$	-	-
<b>F</b>	F-1/yr	2020	0.553	-	-
<b>ER</b>	ER-ratio	2020	0.041	-	-
<b>TC</b>	TC-MT	2020	6669		
<b>TL</b>	TL-MT	2017	1692		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2017	3.115		
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2020	3.187		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2020	2.557		
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2020	3.874		
<b>ER/ERmgt</b>	-	-	-		

Blue grenadier New South Wales to Western Australia [BGRDRNSWWA]

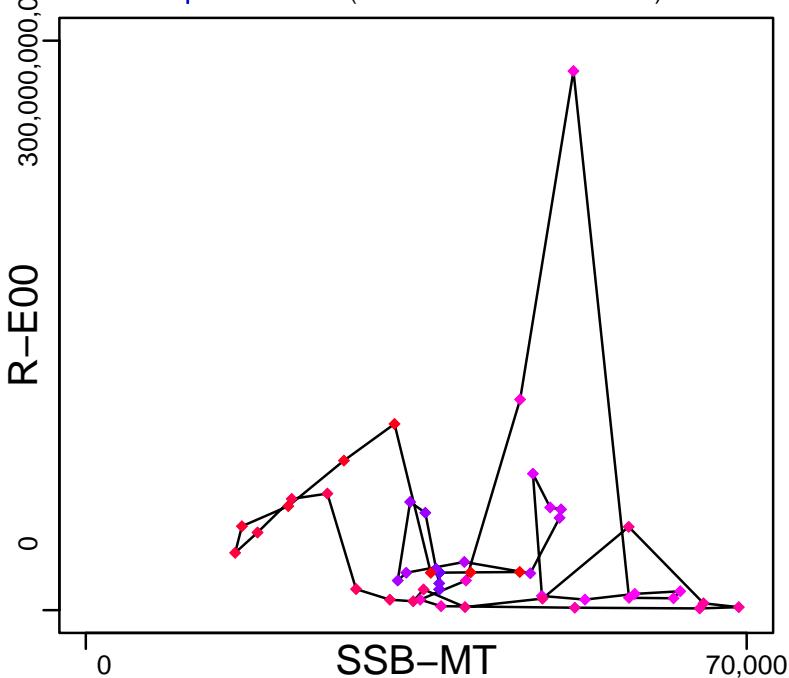
Kobe MSYpref (1960–2020–MOESENER)



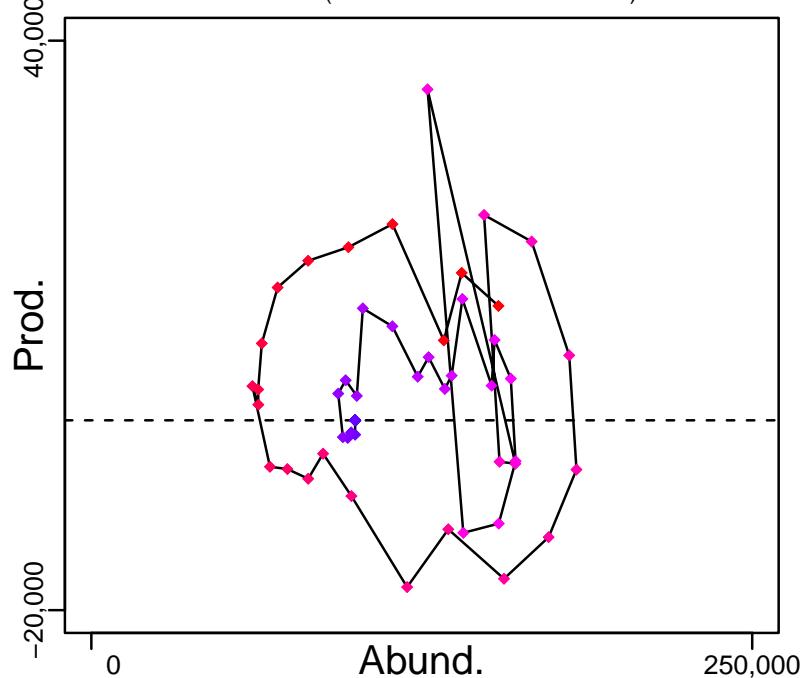
Kobe MGTpref (1960–2020–MOESENER)



Spawner Recruit (1960–2020–MOESENER)



Production (1960–2020–MOESENER)

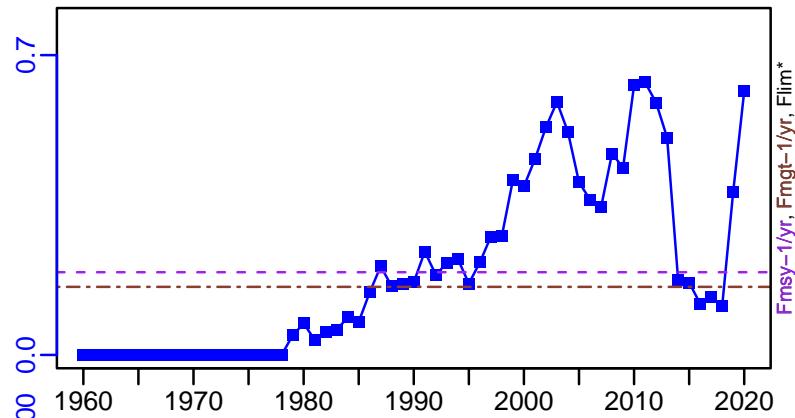
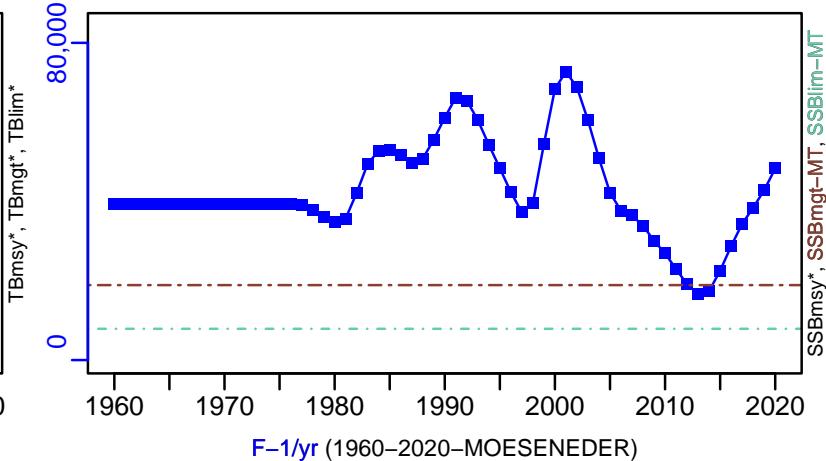
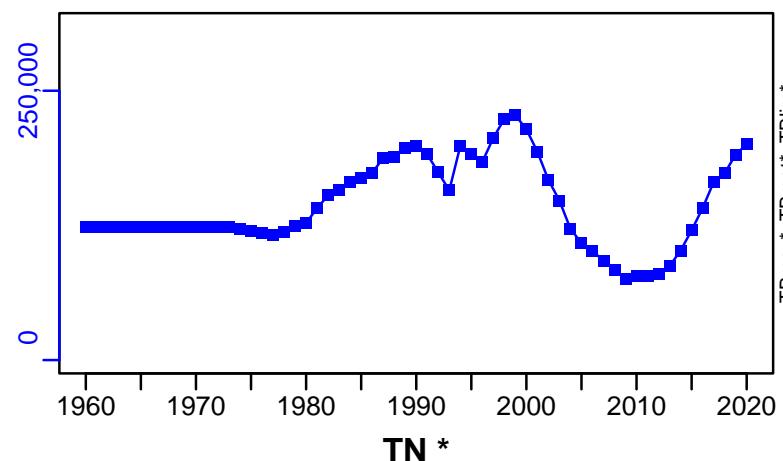


◆ Start Year ◆ End Year \* No Data

### Blue grenadier New South Wales to Western Australia [BGRDRNSWWA]

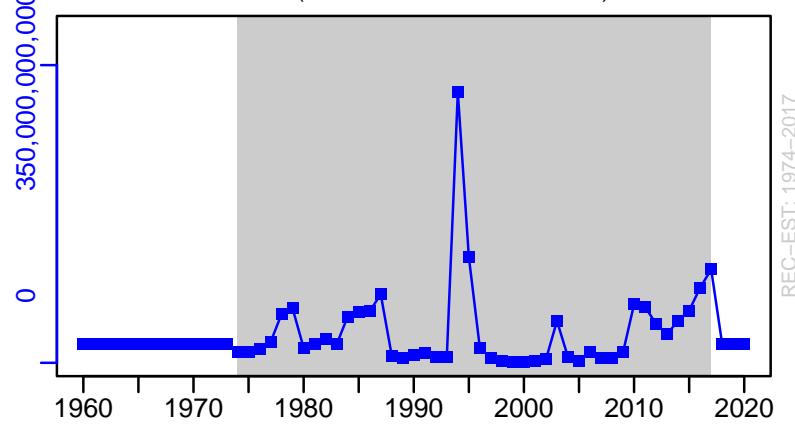
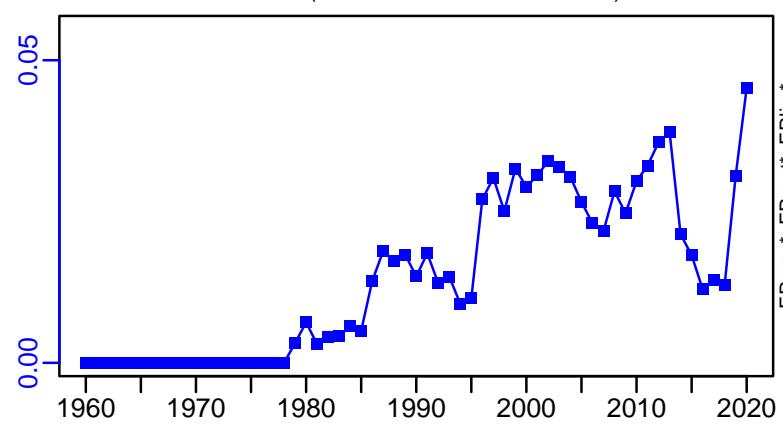
TB-MT (1960–2020–MOESENEDER)

SSB-MT (1960–2020–MOESENEDER)



ER-ratio (1960–2020–MOESENEDER)

R-E00 (1960–2020–MOESENEDER)

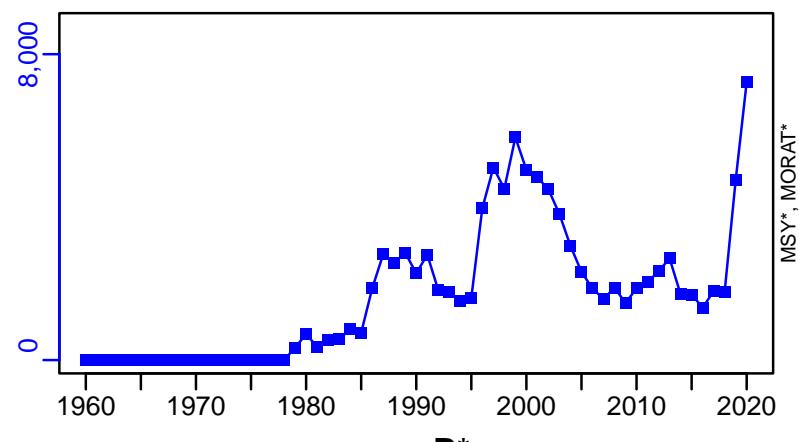


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| - - MSY-based BRP    | --- Lim BRP  | * No Data |

**Blue grenadier New South Wales to Western Australia [BGRDRNSWWA]**

TC-MT, TL\*, RecC\* (1960–2020–MOESENEDER)

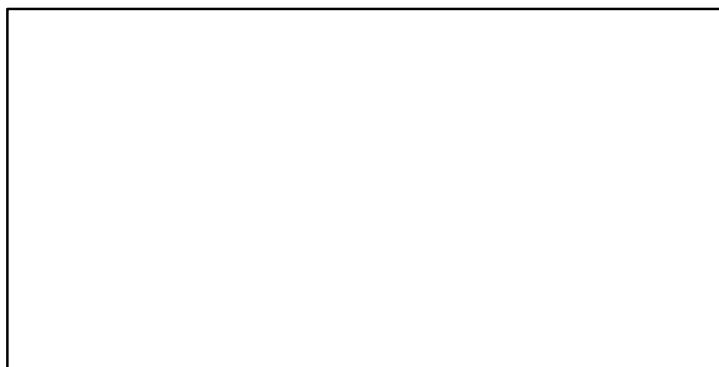
TAC\*, Cpair\*, Cadv\*



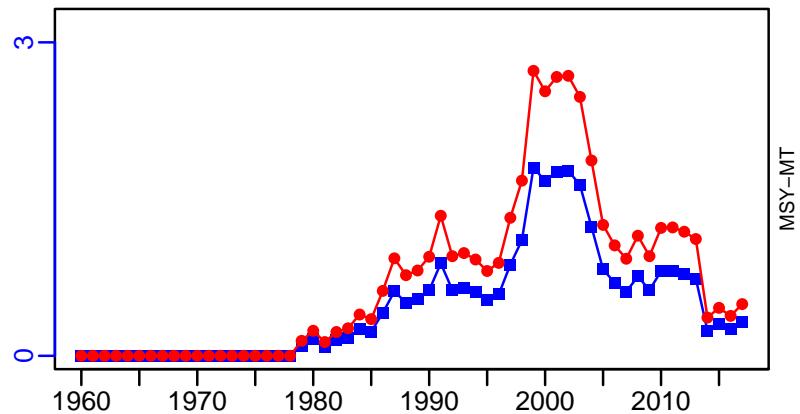
CPUE\*



EFFORT\*



TL-MT/MSY-MT, CdivMEANC-ratio, (1960–2017–MOESENEDER)



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

## Benguela hake Central West Africa Angola [BHAKECWAAGO]

Metadata	
<b>Scientific Name</b>	Merluccius polli
<b>Current Assess ID</b>	FAO-DR-BHAKECWAAGO-1994-2010-ASHBROOK
<b>Area</b>	Central West Africa Angola
<b>Management Authority</b>	Food and Agriculture Organization of the United Nations
<b>Assessor</b>	FAO/CECAF Working Group on the Assessment of Demersal Resources
<b>Asmts in RAM</b>	2010, 2007

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>	-	-	-
<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>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2010	4675		
<b>TL</b>	-	-	-		
<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>	-	-	-		

Benguela hake Central West Africa Angola [BHAKECWAAGO]

**Kobe MSY\***

**Kobe MGT\***

**Spawner Recruit\***

**Production\***

◆ Start Year ♦ End Year \* No Data

Benguela hake Central West Africa Angola [BHAKECWAAGO]

**TB\***



**SSB\***



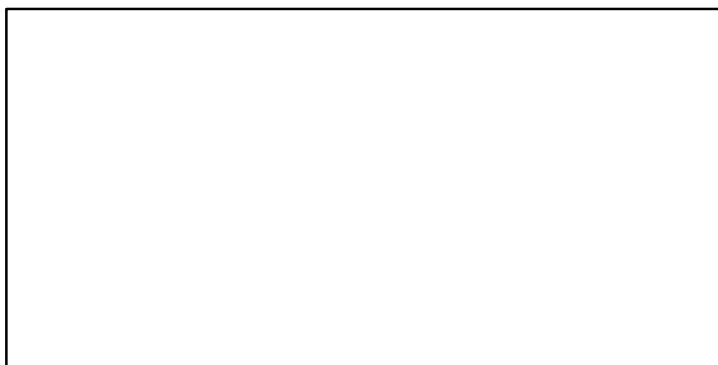
**TN \***



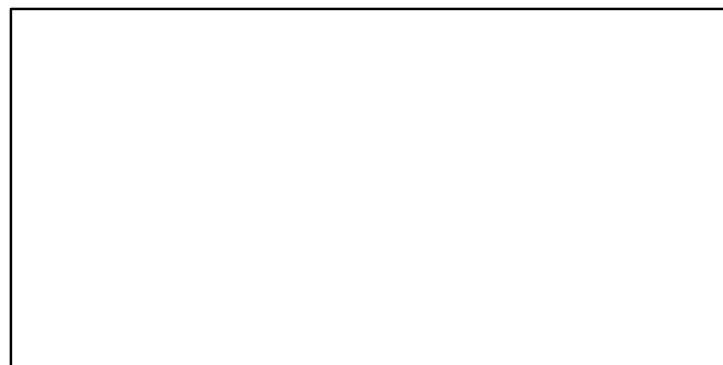
**F\***



**ER\***



**Recruits\***

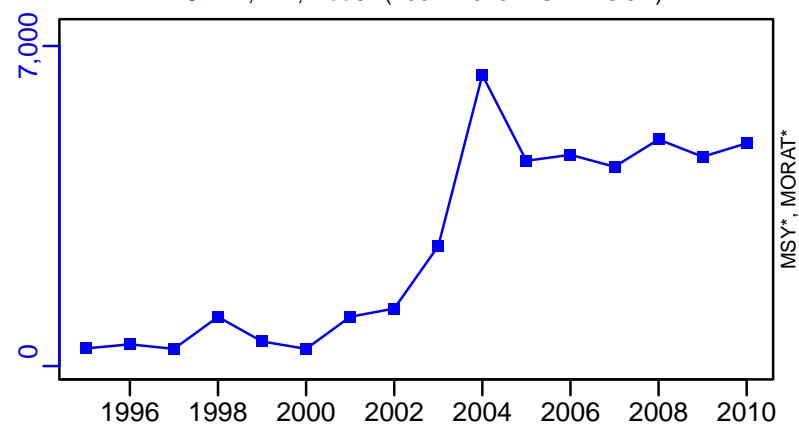


- |                      |                  |           |
|----------------------|------------------|-----------|
| ■ Listed time series | - - - Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP    | * No Data |

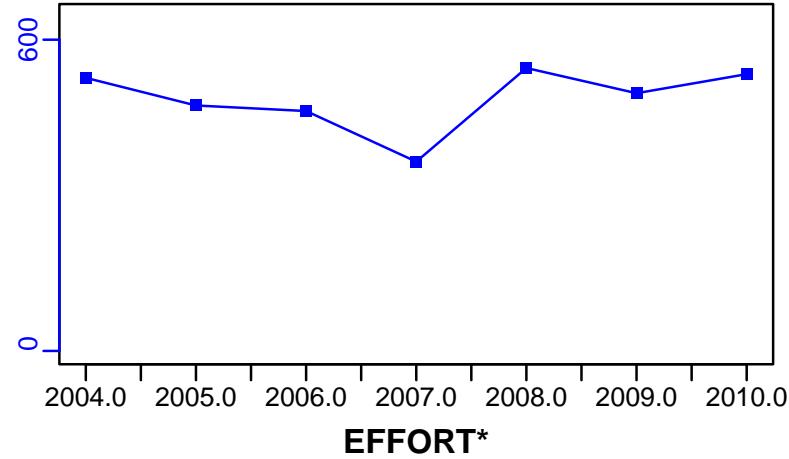
Benguela hake Central West Africa Angola [BHAKECWAAGO]

TC-MT, TL\*, RecC\* (1994–2010-ASHBROOK)

TAC\*, Cpair\*, Cadv\*

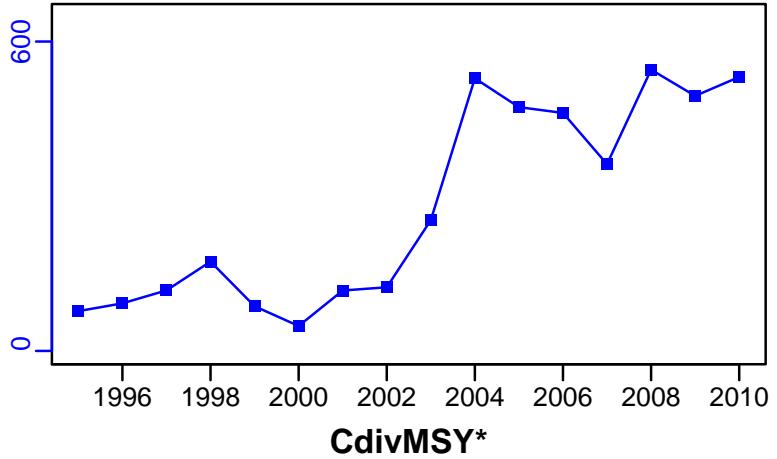


survB\_index-1-index (1994–2010-ASHBROOK)



EFFORT\*

CPUE-index (1994–2010-ASHBROOK)



CdivMSY\*

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

## Blue ling ICES 1-2-3a-4a-8-9-12 [BLINGI-II-IIIa-IVa-VIII-IX-XII]

<b>Metadata</b>	
<b>Scientific Name</b>	Molva dypterygia
<b>Current Assess ID</b>	WGDEEP-BLINGI-II-IIIa-IVa-VIII-IX-XII-1988-2018-ICESIMP2021
<b>Area</b>	ICES 1-2-3a-4a-8-9-12
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources
<b>Asmts in RAM</b>	2015, 2016, 2018

<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>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<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>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2015	240		
<b>TL</b>	TL-MT	2018	348		
<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\***

◆ Start Year   ◆ End Year   \* No Data

**Blue ling ICES 1–2–3a–4a–8–9–12 [BLINGI–II–IIIa–IVa–VIII–IX–XII]**

**TB\***



**SSB\***



**TN \***



**F\***



**ER\***



**Recruits\***

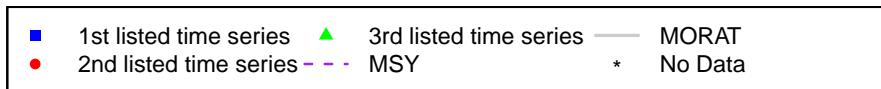
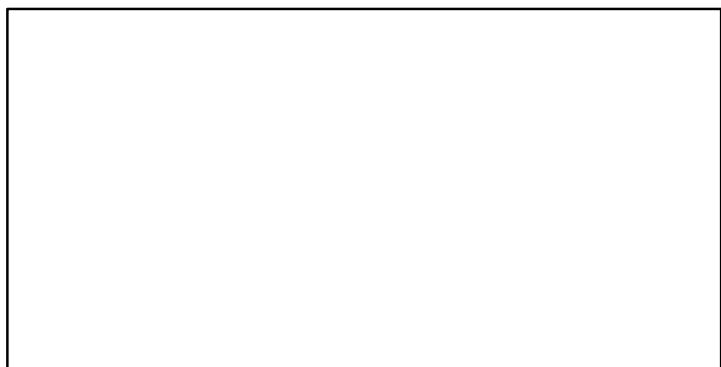
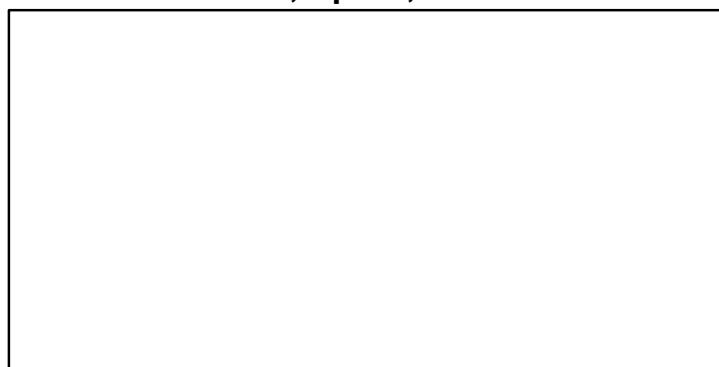
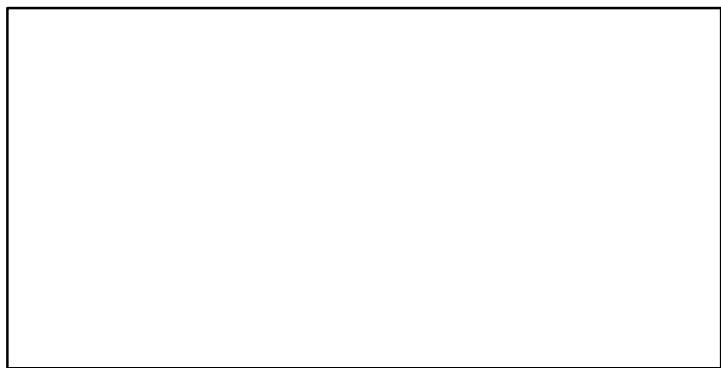
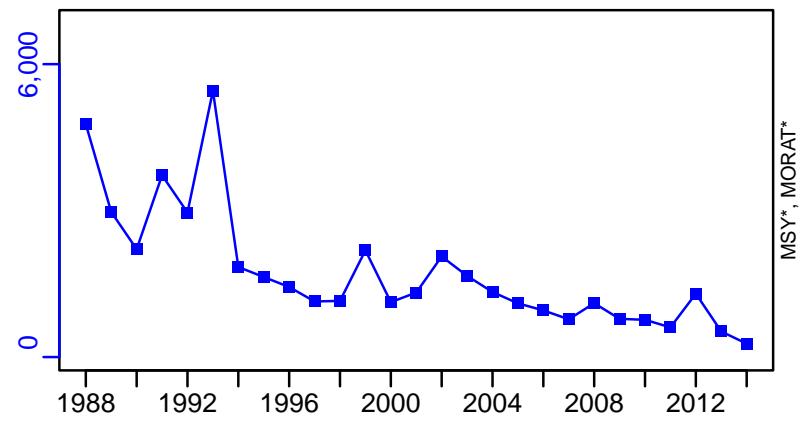


- |                      |                  |           |
|----------------------|------------------|-----------|
| ■ Listed time series | - - - Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP    | * No Data |

Blue ling ICES 1–2–3a–4a–8–9–12 [BLINGI–II–IIIa–IVa–VIII–IX–XII]

TC–MT, TL\*, RecC\* (1988–2015–ICESIMP2016)

TAC\*, Cpair\*, Cadv\*



## Blue ling ICES 5a-14 [BLINGVa-XIV]

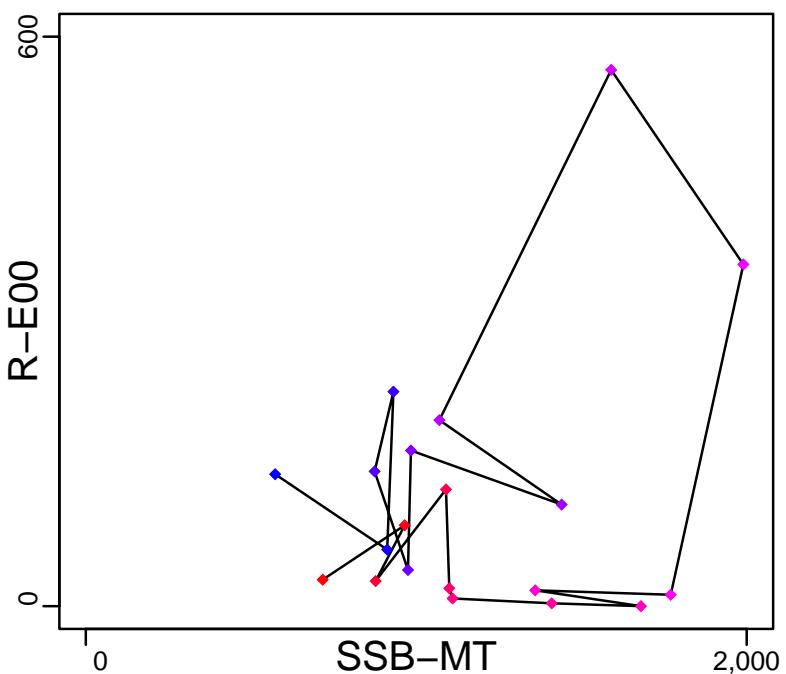
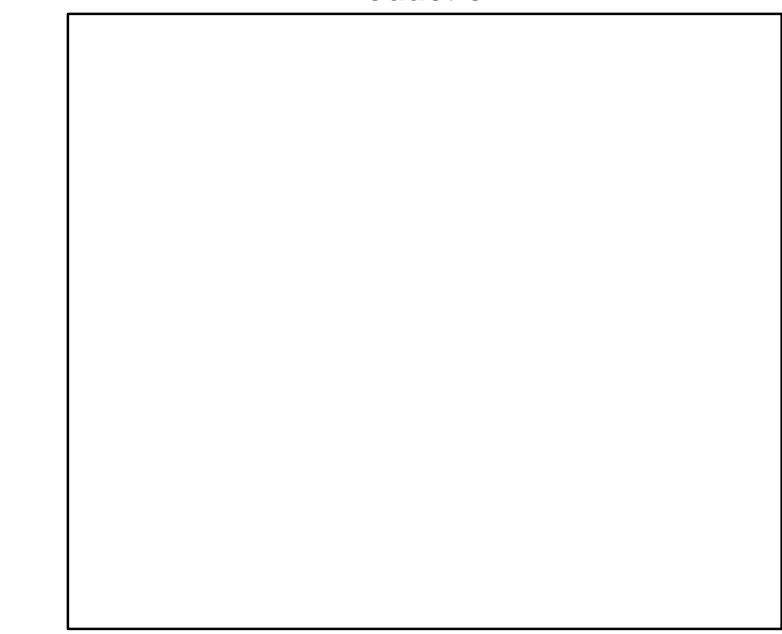
<b>Metadata</b>	
<b>Scientific Name</b>	Molva dypterygia
<b>Current Assess ID</b>	WGDEEP-BLINGVa-XIV-1973-2020-ICESIMP2021-2
<b>Area</b>	ICES 5a-14
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources
<b>Asmts in RAM</b>	2018, 2020, 2016, 2016, 2017

<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<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>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<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>	-	-	-	-	-	
<b>SSB</b>	SSB-MT	2020	717	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2020	28	-	-	
<b>F</b>	F-1/yr	2016	0.834	-	-	
<b>ER</b>	-	-	-	-	-	
<b>TC</b>	TC-MT	2020	376			
<b>TL</b>	TL-MT	2016	1810			
<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\***

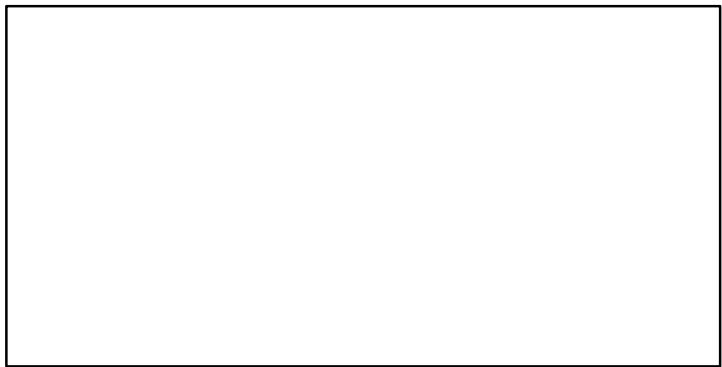
Spawner Recruit (1973–2020–ICESIMP2021–2)

**Production\***

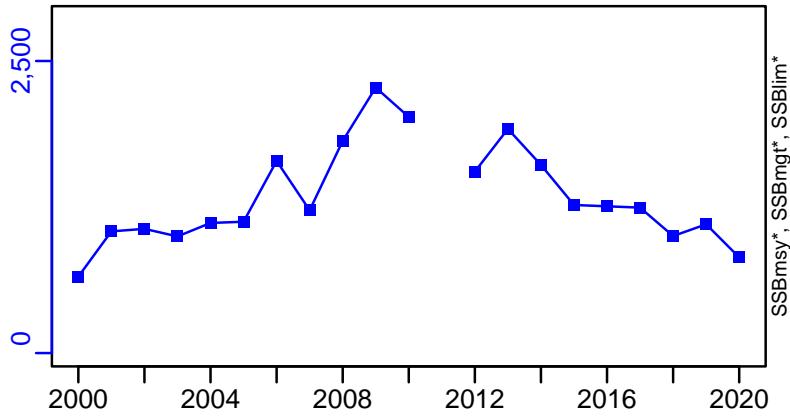
◆ Start Year   ◆ End Year   \* No Data

Blue ling ICES 5a–14 [BLINGVa–XIV]

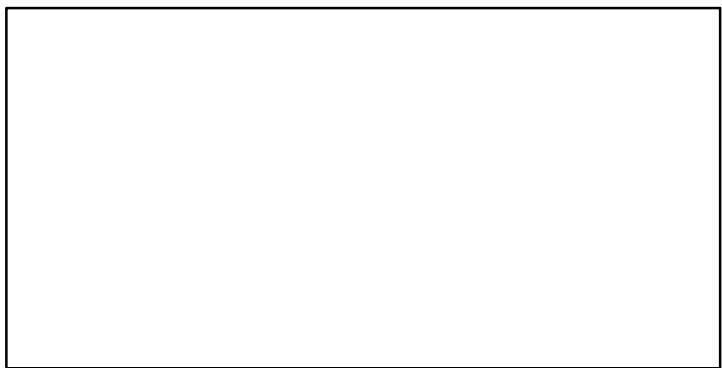
**TB\***



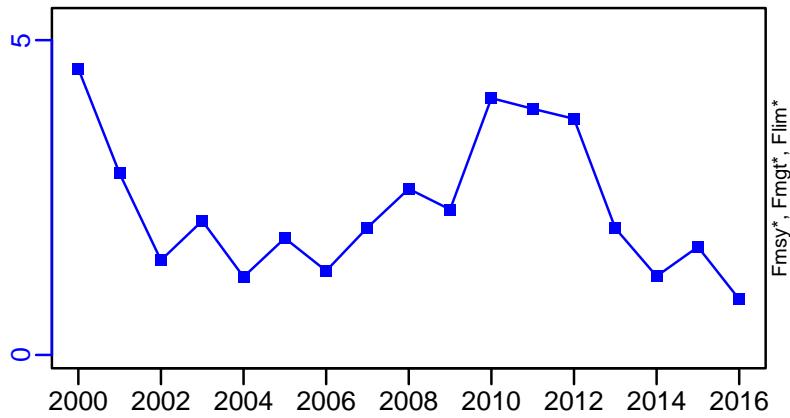
**SSB-MT** (1973–2020–ICESIMP2021–2)



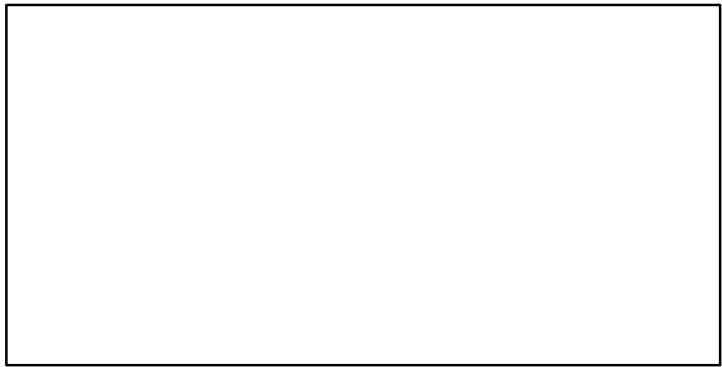
**TN \***



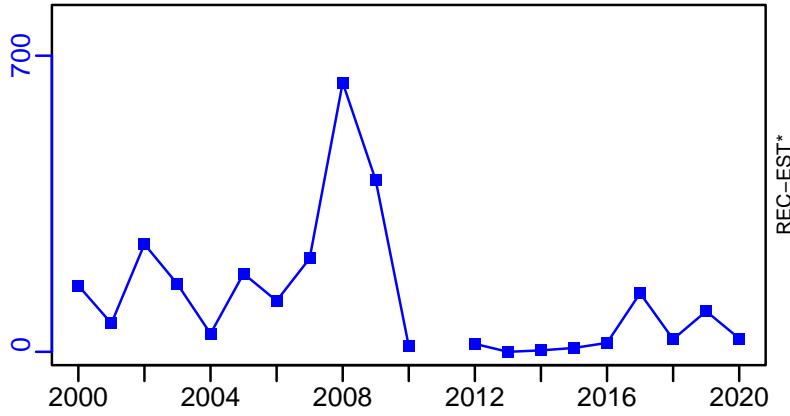
**F-1/yr** (2000–2016–ICESIMP2018)



**ER\***



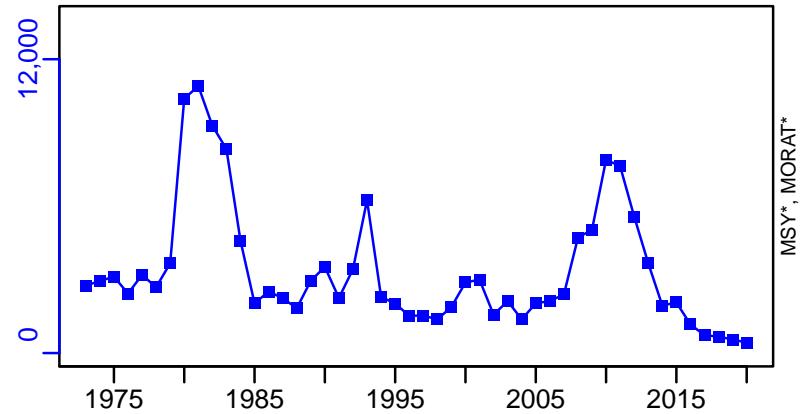
**R-E00** (1973–2020–ICESIMP2021–2)



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

**Blue ling ICES 5a–14 [BLINGVa–XIV]**

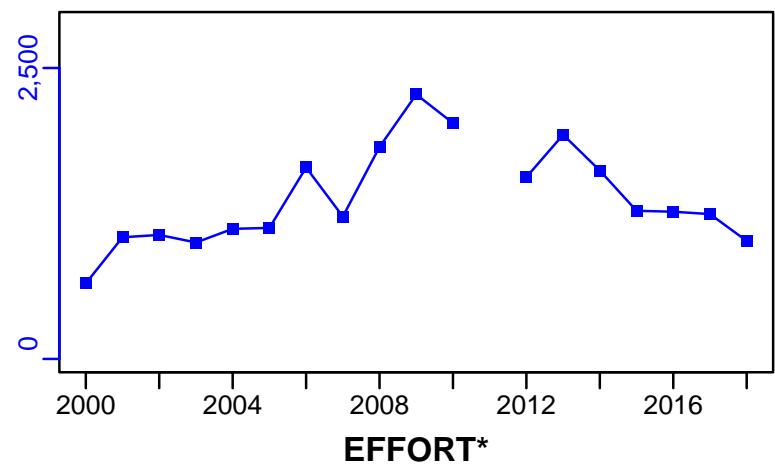
TC–MT, TL\*, RecC\* (1973–2020–ICESIMP2021–2)



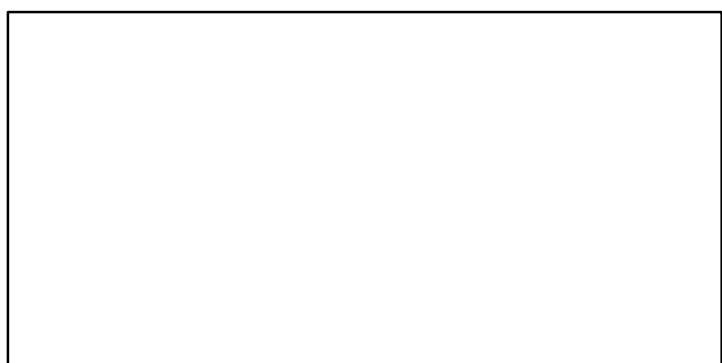
**TAC\*, Cpair\*, Cadv\***



survB–MT (1973–2018–ICESIMP2021)



**CPUE\***



**EFFORT\***



**CdivMSY\***



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

## Blue ling ICES 5b-6-7 [BLINGVb-VI-VII]

<b>Metadata</b>	
<b>Scientific Name</b>	Molva dypterygia
<b>Current Assess ID</b>	WGDEEP-BLINGVb-VI-VII-1966-2020-ICESIMP2021-2
<b>Area</b>	ICES 5b-6-7
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources
<b>Asmts in RAM</b>	2016, 2018, 2020, 2014

<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2020	0.12
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	Fmgt-1/yr	2020	0.12
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2020	54,000
<b>Flim</b>	Flim-1/yr	2020	0.17
<b>ERlim</b>	-	-	-

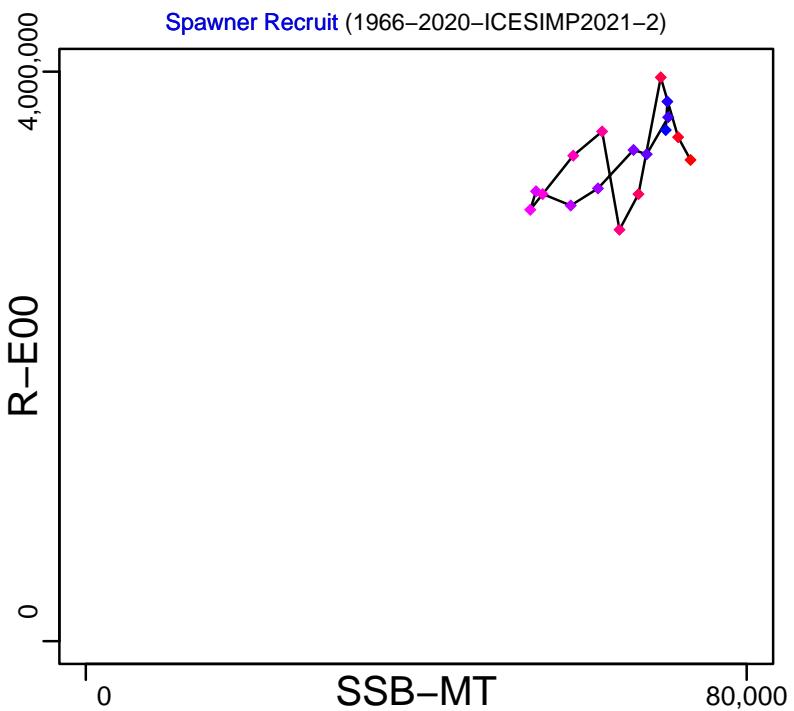
<b>Time Series</b>						
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Curr Value</b>	<b>Sex</b>	<b>Age</b>	
<b>TB</b>	-	-	-	-	-	
<b>SSB</b>	SSB-MT	2020	99,300	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2020	3,380,000	-	9	
<b>F</b>	F-1/yr	2020	0.036	-	-	
<b>ER</b>	-	-	-	-	-	
<b>TC</b>	TC-MT	2018	2670			
<b>TL</b>	TL-MT	2020	3220			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2020	0.301			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2020	0.301			
<b>ER/ERmgt</b>	-	-	-			

Blue ling ICES 5b–6–7 [BLINGVb–VI–VII]

Kobe MSY\*

Kobe MGT\*

Spawner Recruit (1966–2020–ICESIMP2021–2)

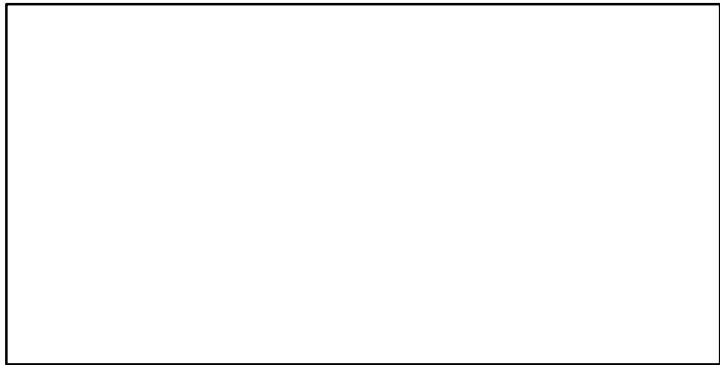


Production\*

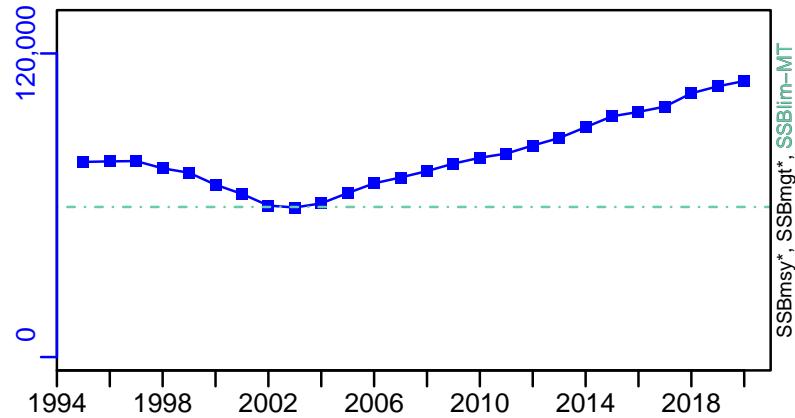
◆ Start Year   ◆ End Year   \* No Data

Blue ling ICES 5b–6–7 [BLINGVb–VI–VII]

**TB\***



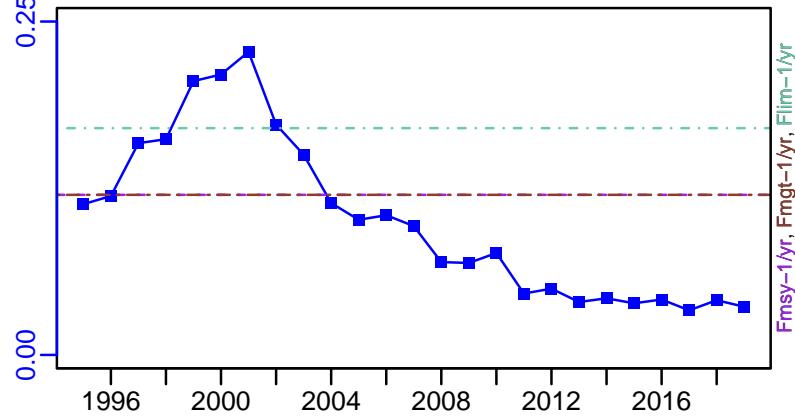
**SSB-MT** (1966–2020–ICESIMP2021–2)



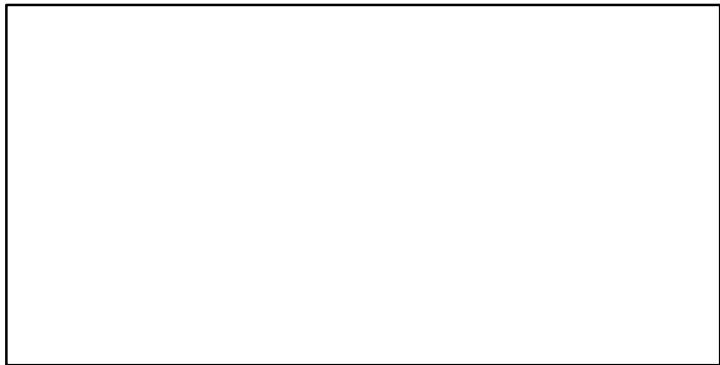
**TN \***



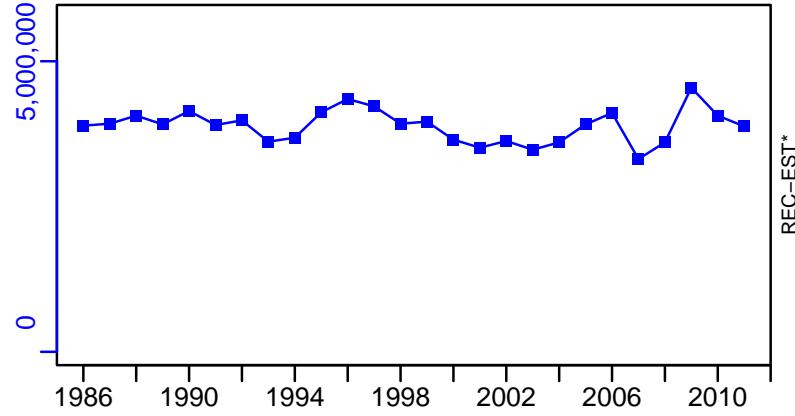
**F-1/yr** (1966–2020–ICESIMP2021–2)



**ER\***



**R-E00** (1966–2020–ICESIMP2021–2)

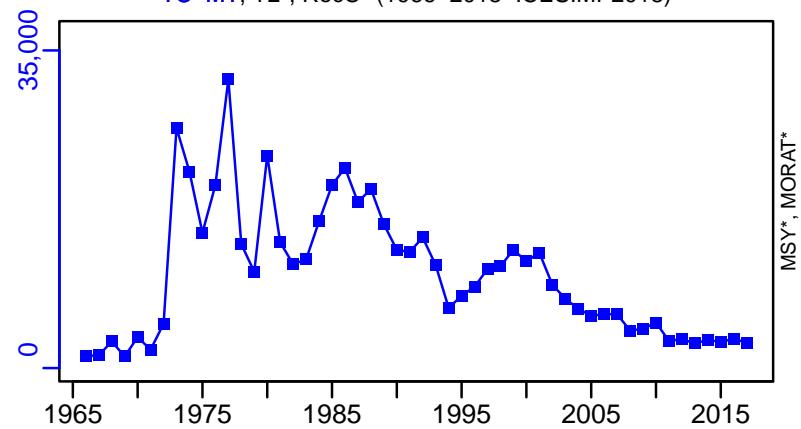


- |                      |               |           |
|----------------------|---------------|-----------|
| ■ Listed time series | — Target BRP  | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP | * No Data |

Blue ling ICES 5b–6–7 [BLINGVb–VI–VII]

TC–MT, TL\*, RecC\* (1966–2018–ICESIMP2018)

TAC\*, Cpair\*, Cadv\*



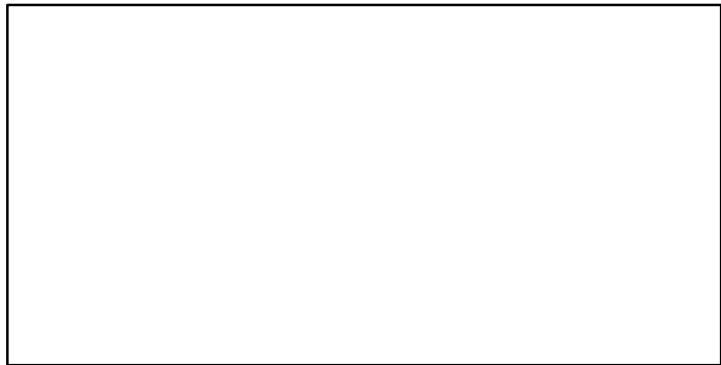
**survB\***



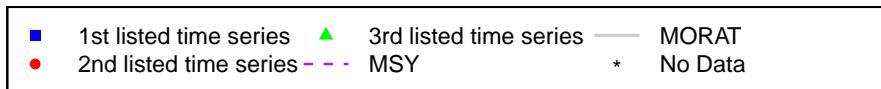
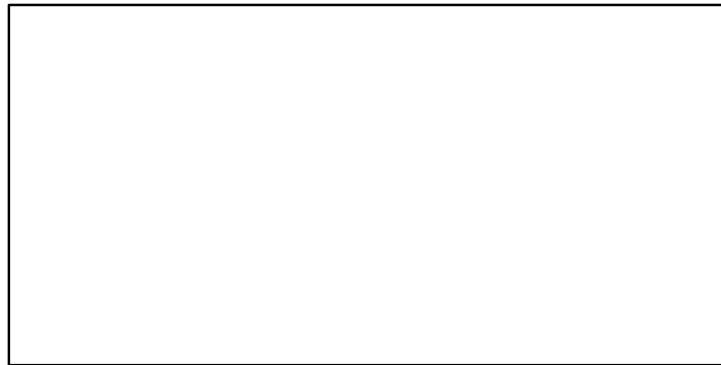
**CPUE\***



**EFFORT\***



**CdivMSY\***



## Blue whiting Northern Alboran Sea [BWHITMEDGSA1]

<b>Metadata</b>	
<b>Scientific Name</b>	Micromesistius poutassou
<b>Current Assess ID</b>	STECF-BWHITMEDGSA1-2002-2011-OSIO
<b>Area</b>	Northern Alboran Sea
<b>Management Authority</b>	General Fisheries Council for the Mediterranean, DG MARE, and national states
<b>Assessor</b>	Scientific, Technical and Economic Committee for Fisheries
<b>Asmts in RAM</b>	2011

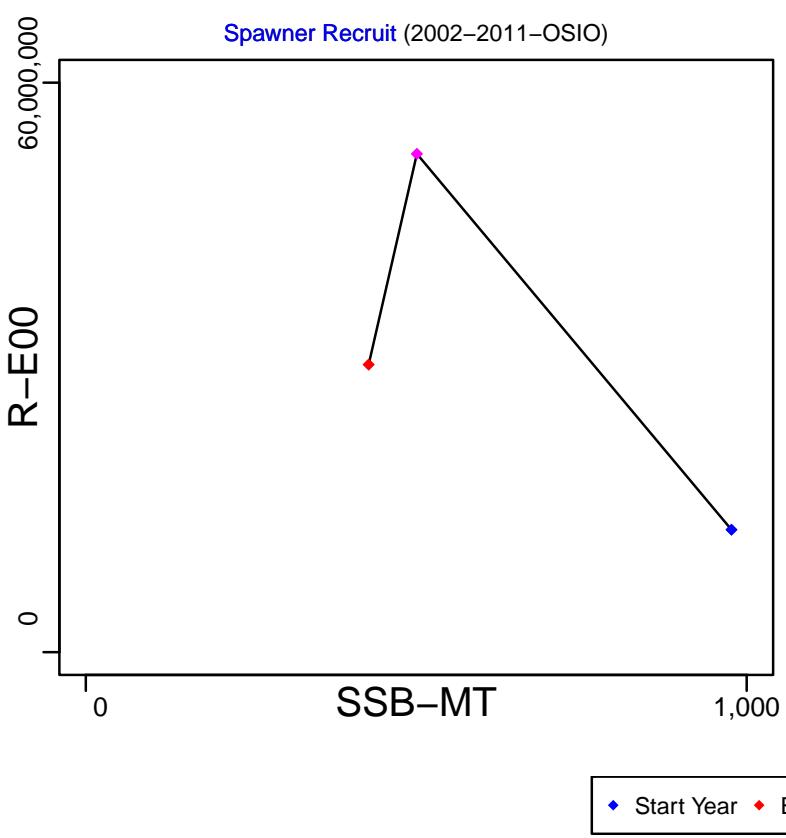
<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	Fmgt-1/yr	2011	0.4
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<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>	-	-	-	-	-
<b>SSB</b>	SSB-MT	2011	428	-	2+
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2011	30,300,000	-	-
<b>F</b>	F-1/yr	2011	1.4	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2011	644		
<b>TL</b>	-	-	-		
<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>	F-1/yr/Fmgt-1/yr	2011	3.5		
<b>ER/ERmgt</b>	-	-	-		

Blue whiting Northern Alboran Sea [BWHITMEDGSA1]

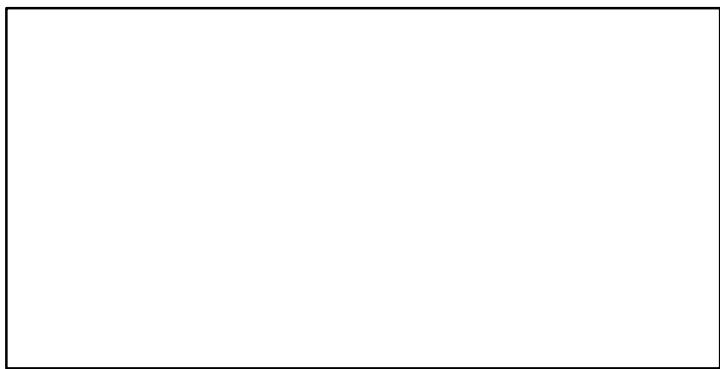
Kobe MSY\*

Kobe MGT\*

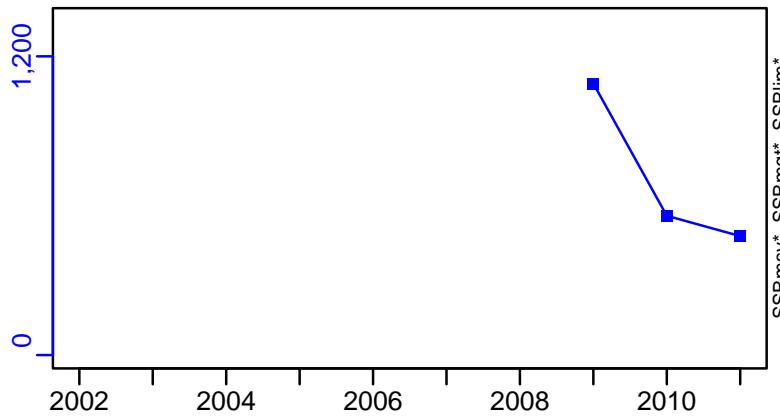


Blue whiting Northern Alboran Sea [BWHITMEDGSA1]

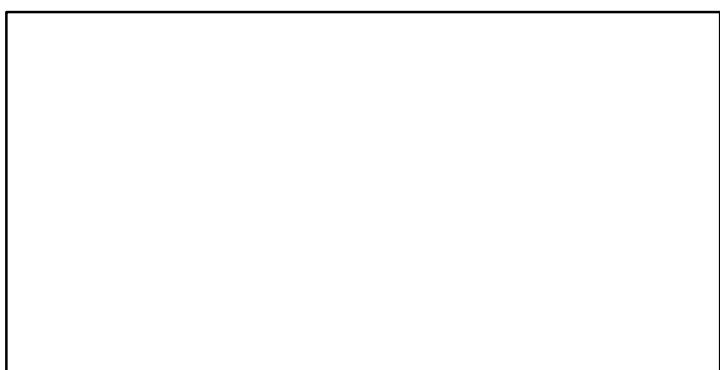
**TB\***



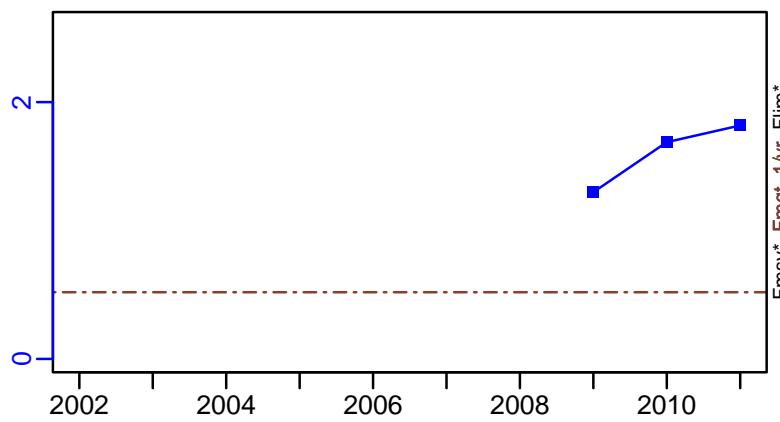
SSB-MT (2002–2011–OSIO)



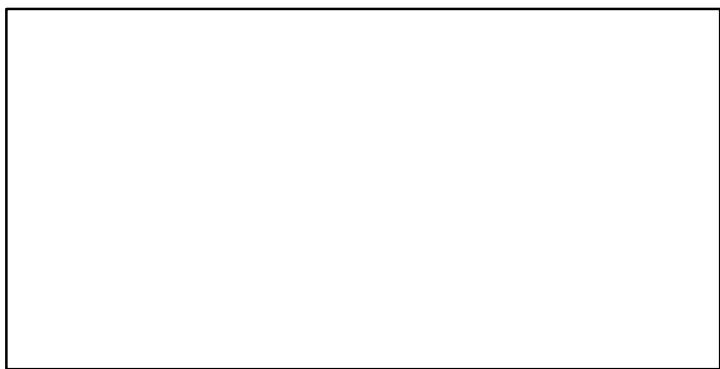
**TN \***



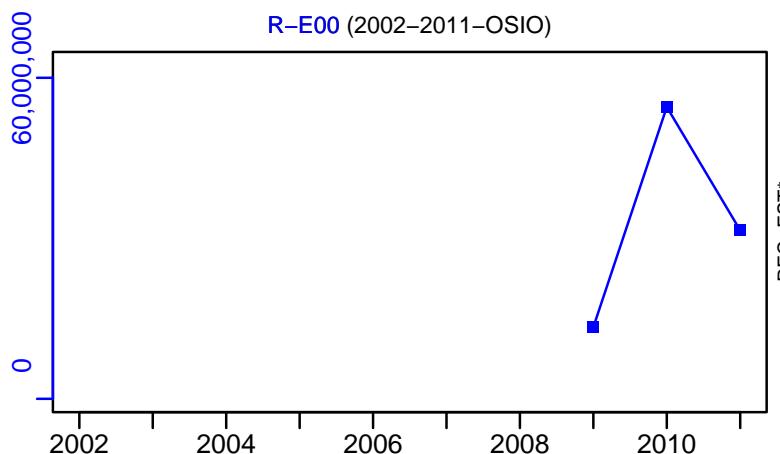
F-1/yr (2002–2011–OSIO)



**ER\***



R-E00 (2002–2011–OSIO)

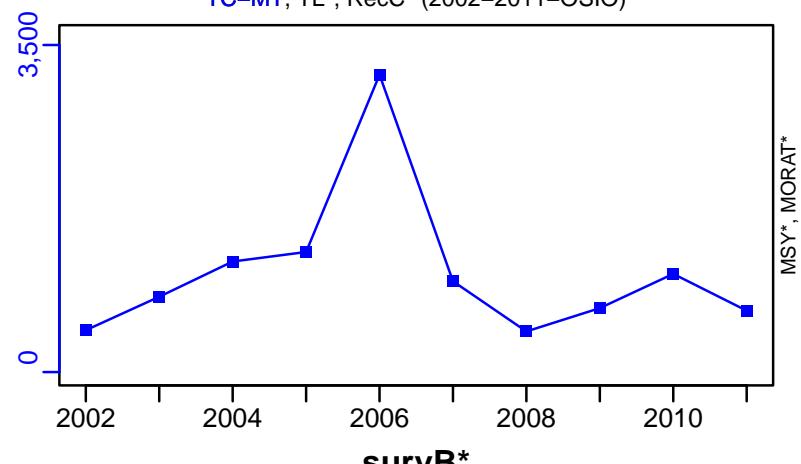


- Listed time series    - - - Target BRP    — Rec-Est
- - MSY-based BRP    - - Lim BRP    \* No Data

Blue whiting Northern Alboran Sea [BWHITMEDGSA1]

TC-MT, TL\*, RecC\* (2002–2011–OSIO)

TAC\*, Cpair\*, Cadv\*



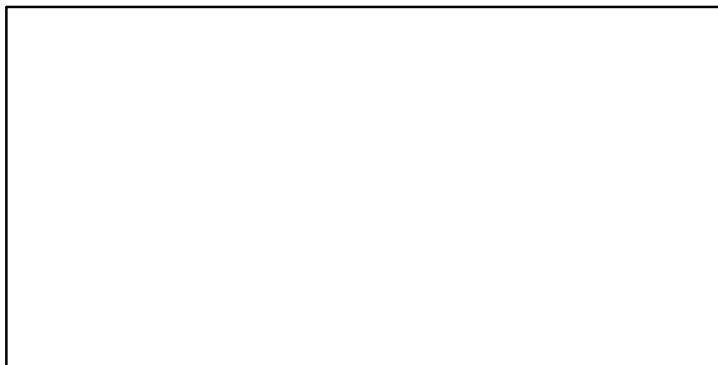
MSY\*, MORAT\*

survB\*

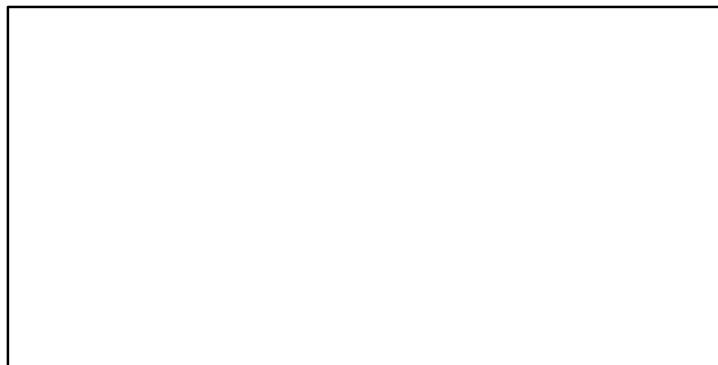


CPUE\*

EFFORT\*



CdivMSY\*



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

## Blue whiting Northern Spain [BWHITMEDGSA6]

<b>Metadata</b>	
<b>Scientific Name</b>	Micromesistius poutassou
<b>Current Assess ID</b>	STECF-BWHITMEDGSA6-2009-2013-OSIO
<b>Area</b>	Northern Spain
<b>Management Authority</b>	General Fisheries Council for the Mediterranean, DG MARE, and national states
<b>Assessor</b>	Scientific, Technical and Economic Committee for Fisheries
<b>Asmts in RAM</b>	2013

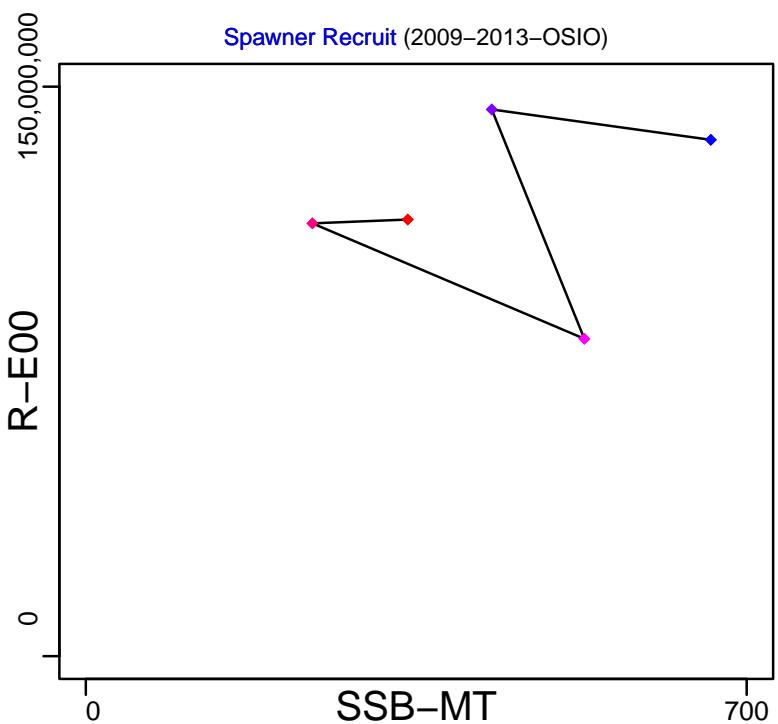
<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	Fmgt-1/yr	2013	0.159
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<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>	-	-	-	-	-
<b>SSB</b>	SSB-MT	2013	341	-	2+
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2013	$1.15 \times 10^8$	-	-
<b>F</b>	F-1/yr	2013	1.26	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2013	1020		
<b>TL</b>	-	-	-		
<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>	F-1/yr/Fmgt-1/yr	2013	7.903		
<b>ER/ERmgt</b>	-	-	-		

Kobe MSY\*

Kobe MGT\*

Spawner Recruit (2009–2013–OSIO)

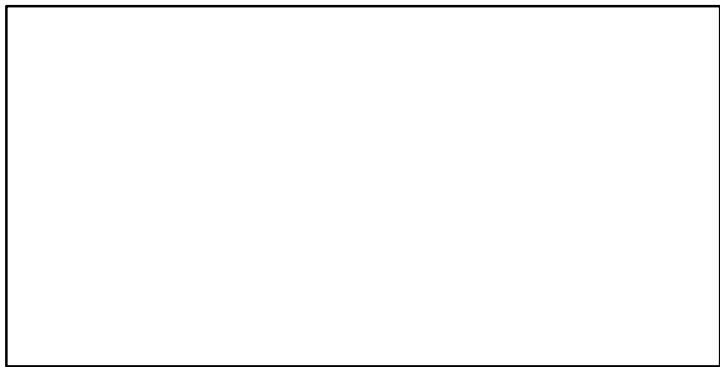


Production\*

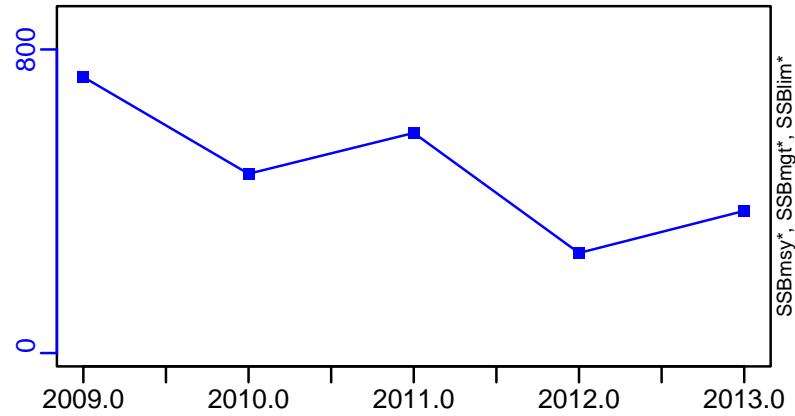


Blue whiting Northern Spain [BWHITMEDGSA6]

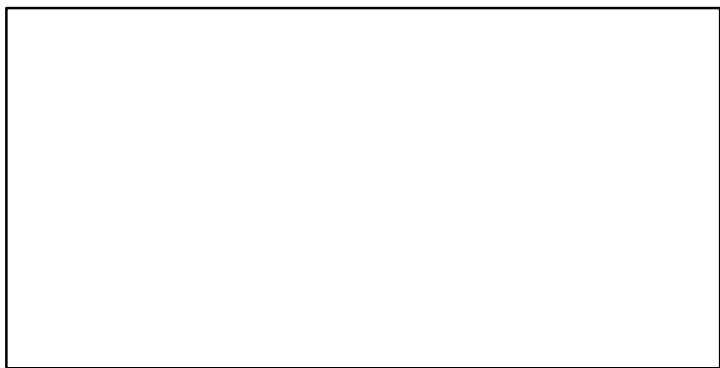
**TB\***



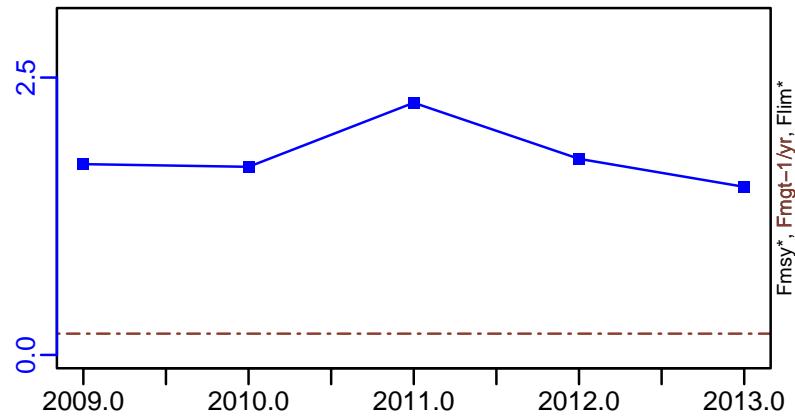
**SSB-MT** (2009–2013–OSIO)



**TN \***



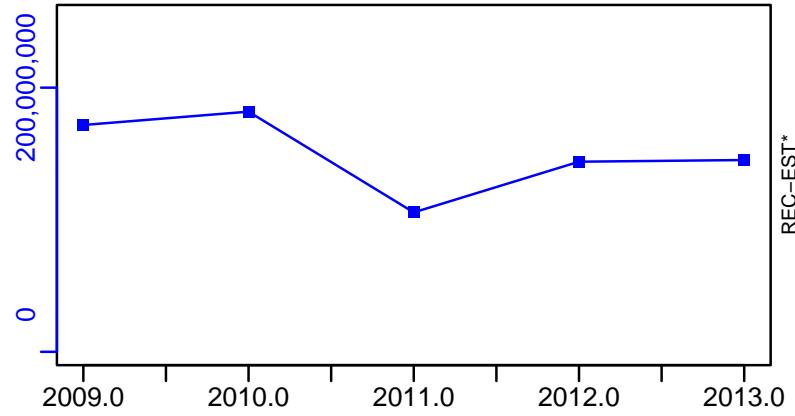
**F-1/yr** (2009–2013–OSIO)



**ER\***



**R-E00** (2009–2013–OSIO)

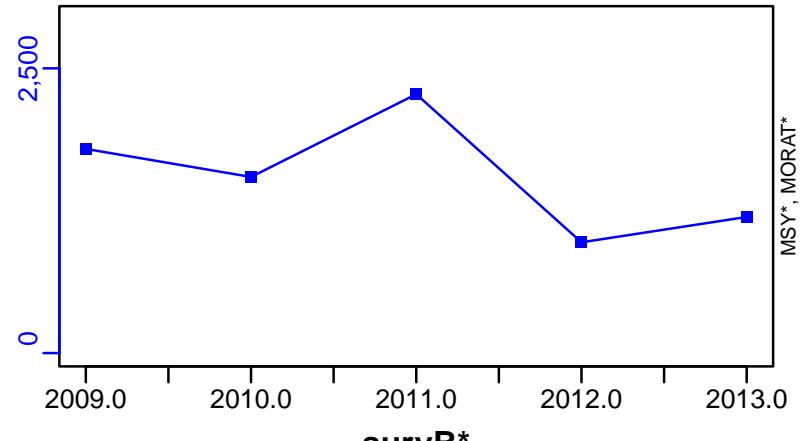


- Listed time series    - - - Target BRP    — Rec-Est
- - MSY-based BRP    - - Lim BRP    \* No Data

**Blue whiting Northern Spain [BWHITMEDGSA6]**

TC-MT, TL\*, RecC\* (2009–2013–OSIO)

TAC\*, Cpair\*, Cadv\*



**survB\***

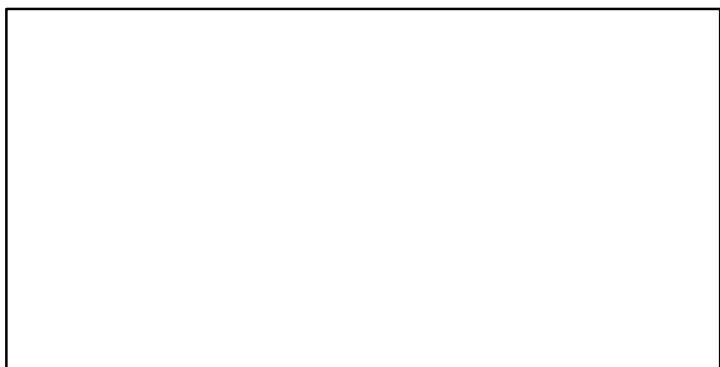
MSY\*, MORAT\*



**CPUE\***



**EFFORT\***



**CdivMSY\***



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

## Blue whiting Ligurian and North Tyrrhenian Sea [BWHITMEDGSA9]

<b>Metadata</b>	
<b>Scientific Name</b>	Micromesistius poutassou
<b>Current Assess ID</b>	STECF-BWHITMEDGSA9-2009-2013-OSIO
<b>Area</b>	Ligurian and North Tyrrhenian Sea
<b>Management Authority</b>	General Fisheries Council for the Mediterranean, DG MARE, and national states
<b>Assessor</b>	Scientific, Technical and Economic Committee for Fisheries
<b>Asmts in RAM</b>	2013

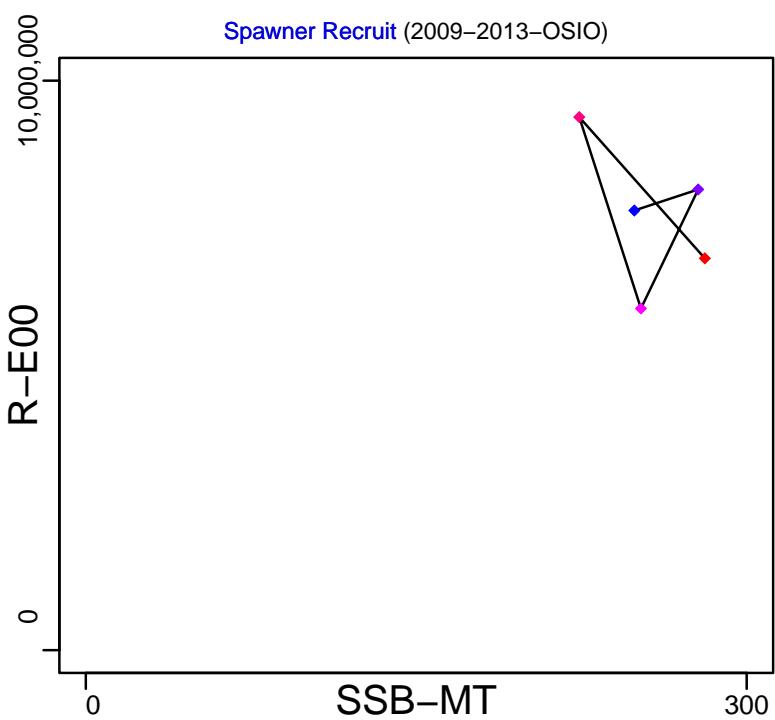
<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	Fmgt-1/yr	2013	0.328
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<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>	-	-	-	-	-
<b>SSB</b>	SSB-MT	2013	281	-	2+
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2013	6,880,000	-	-
<b>F</b>	F-1/yr	2013	0.378	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2013	102		
<b>TL</b>	-	-	-		
<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>	F-1/yr/Fmgt-1/yr	2013	1.151		
<b>ER/ERmgt</b>	-	-	-		

Kobe MSY\*

Kobe MGT\*

Spawner Recruit (2009–2013–OSIO)

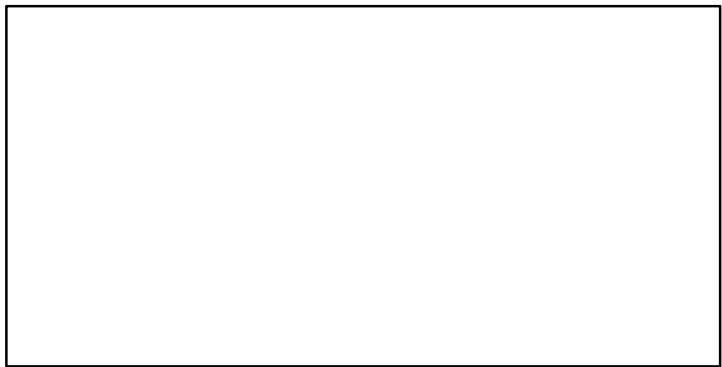


Production\*

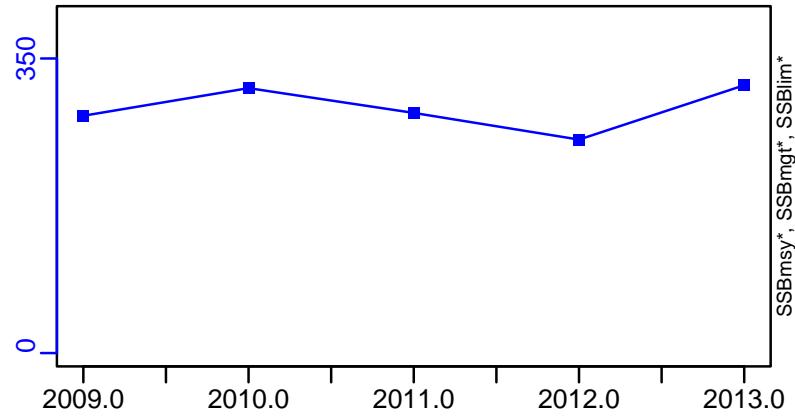
◆ Start Year   ◆ End Year   \* No Data

Blue whiting Ligurian and North Tyrrhenian Sea [BWHITMEDGSA9]

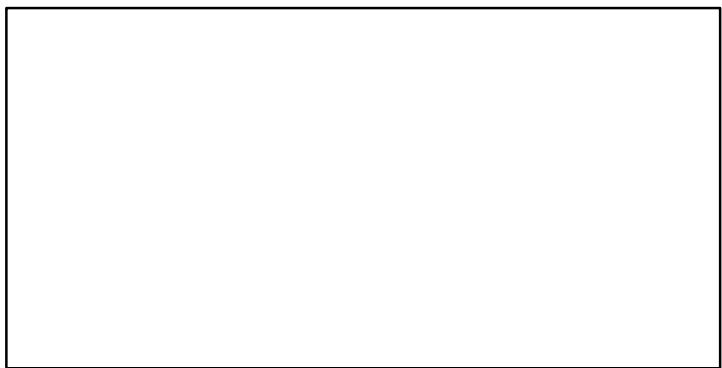
**TB\***



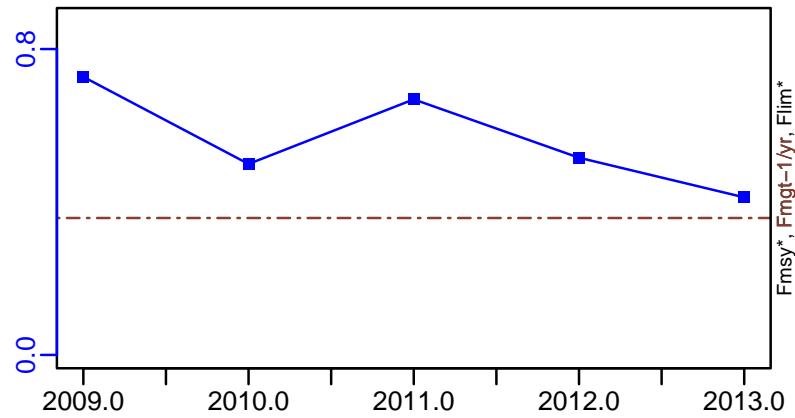
**SSB-MT** (2009–2013–OSIO)



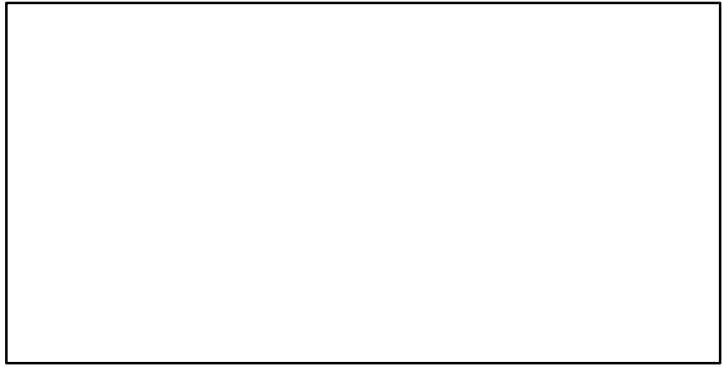
**TN \***



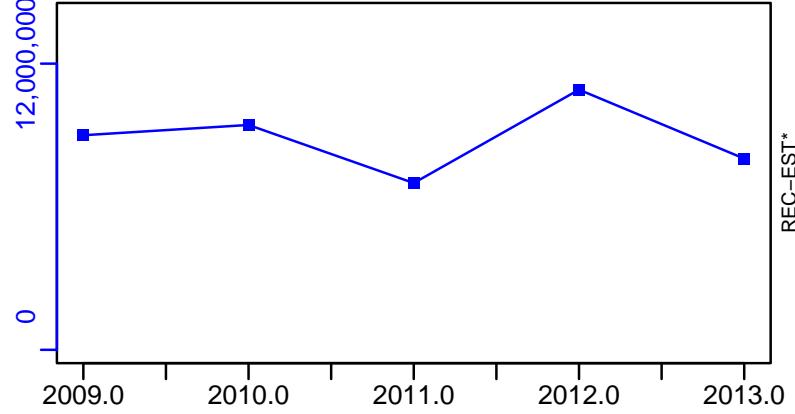
**F-1/yr** (2009–2013–OSIO)



**ER\***



**R-E00** (2009–2013–OSIO)

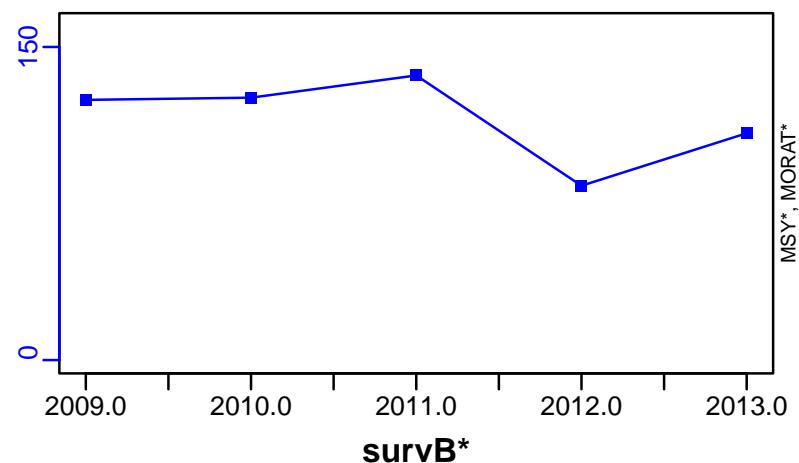


- Listed time series    - - - Target BRP    — Rec-Est
- - MSY-based BRP    - - Lim BRP    \* No Data

**Blue whiting Ligurian and North Tyrrhenian Sea [BWHITMEDGSA9]**

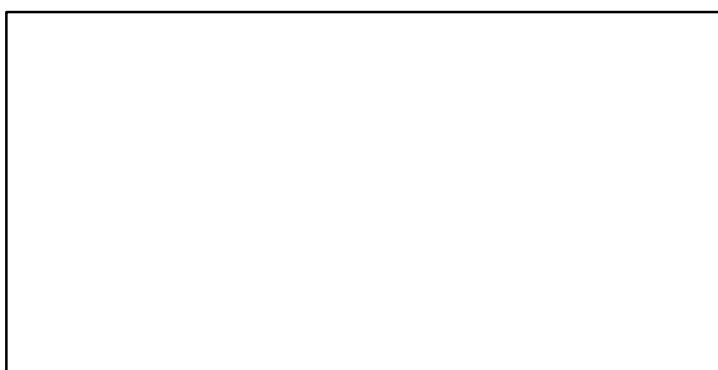
TC-MT, TL\*, RecC\* (2009–2013–OSIO)

TAC\*, Cpair\*, Cadv\*

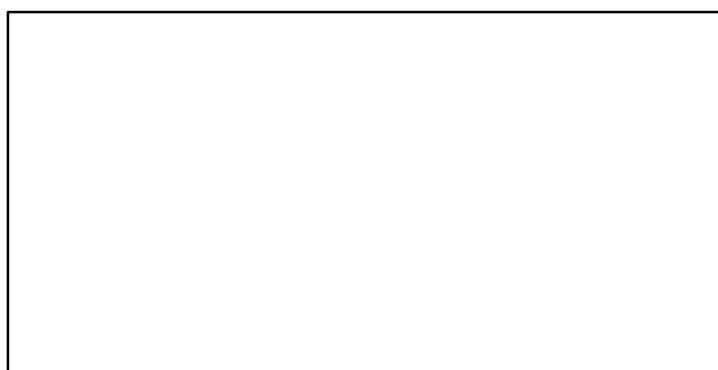


MSY\*, MORAT\*

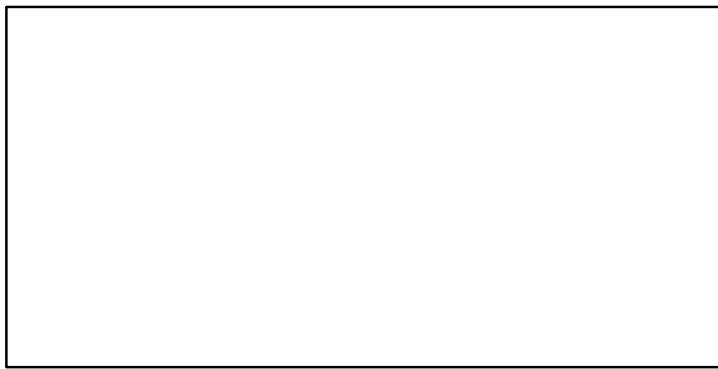
**survB\***



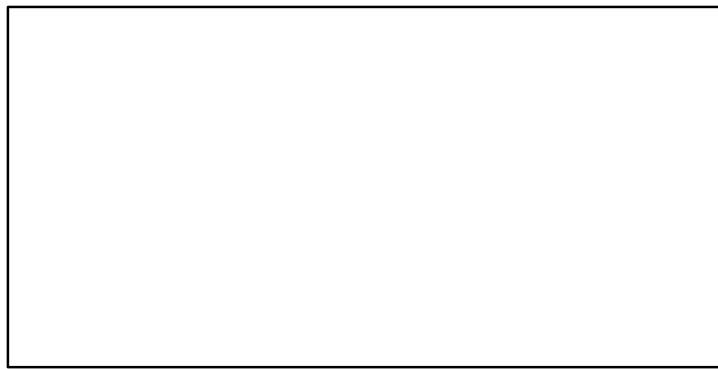
**CPUE\***



**EFFORT\***



**CdivMSY\***



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

## Blue whiting Northeast Atlantic [BWHITNEA]

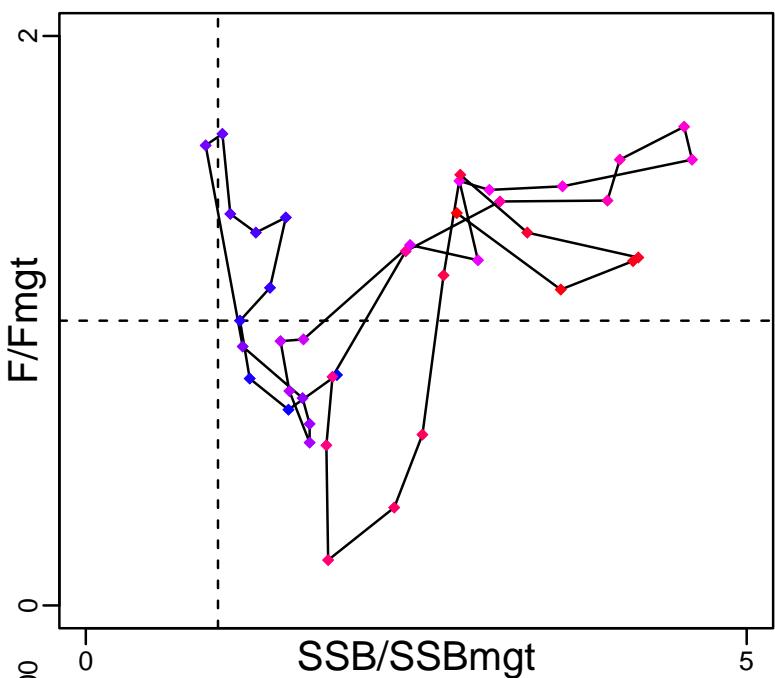
<b>Metadata</b>	
<b>Scientific Name</b>	Micromesistius poutassou
<b>Current Assess ID</b>	WGWISE-BWHITNEA-1981-2022-ICESIMP2021-2
<b>Area</b>	Northeast Atlantic
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on Widely Distributed Stocks
<b>Asmts in RAM</b>	2012, 2013, 2014, 2015, 2017, 2018, 2020, 2021, 2022

<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2022	0.32
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2021	1,500,000
<b>Fmgt</b>	Fmgt-1/yr	2022	0.32
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2022	1,500,000
<b>Flim</b>	Flim-1/yr	2022	0.88
<b>ERlim</b>	-	-	-

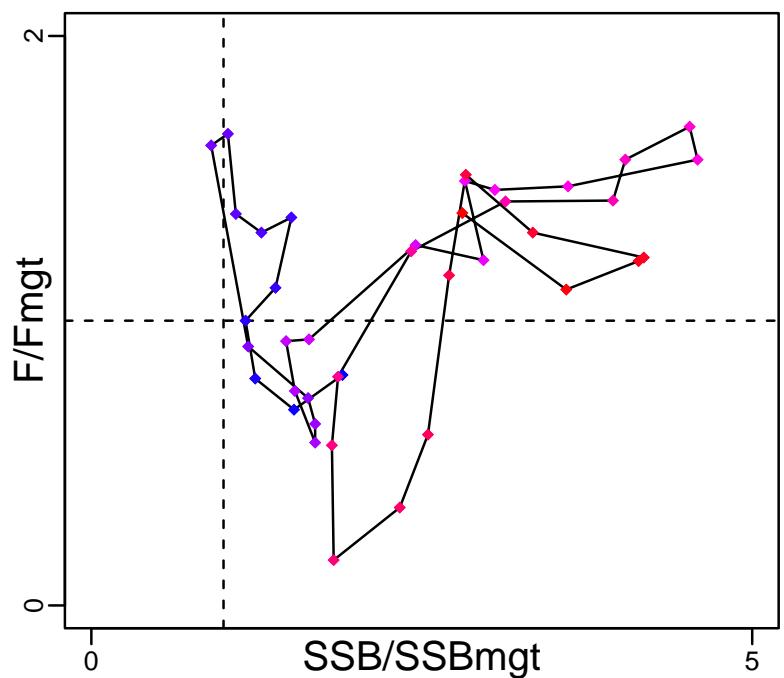
<b>Time Series</b>					
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Curr Value</b>	<b>Sex</b>	<b>Age</b>
<b>TB</b>	TB-MT	2020	5,700,362	-	-
<b>SSB</b>	SSB-MT	2022	3,400,000	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2022	$2.98 \times 10^{10}$	-	1
<b>F</b>	F-1/yr	2022	0.508	-	-
<b>ER</b>	ER-calc-ratio	2020	0.21	-	-
<b>TC</b>	TC-MT	2022	1,240,000		
<b>TL</b>	TL-MT	2022	1,240,000		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2022	1.587		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2021	2.167		
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2022	1.587		
<b>ER/ERmgt</b>	-	-	-		

### Blue whiting Northeast Atlantic [BWHITNEA]

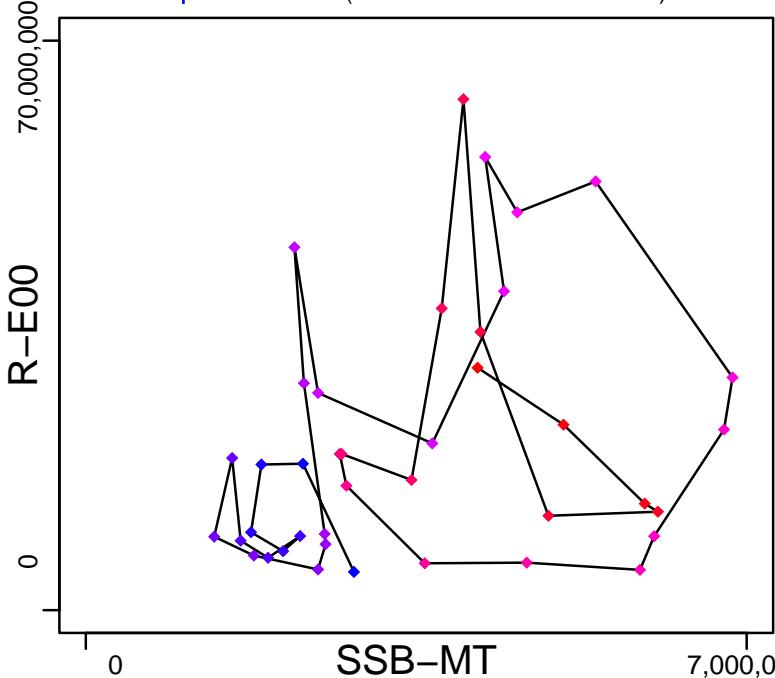
Kobe MSYpref (1981–2021–ICESIMP2021–2)



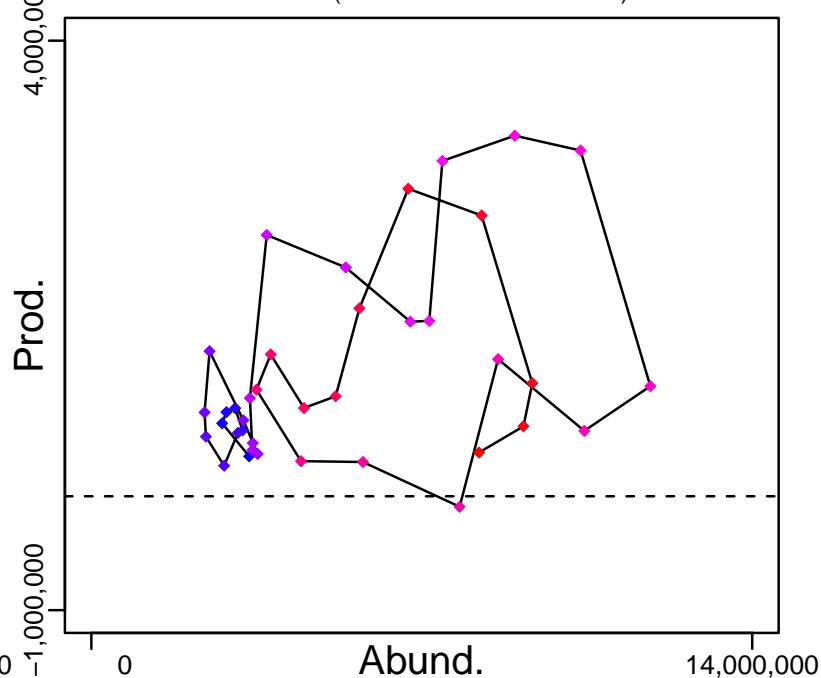
Kobe MGTpref (1981–2021–ICESIMP2021–2)



Spawner Recruit (1981–2022–ICESIMP2021–2)



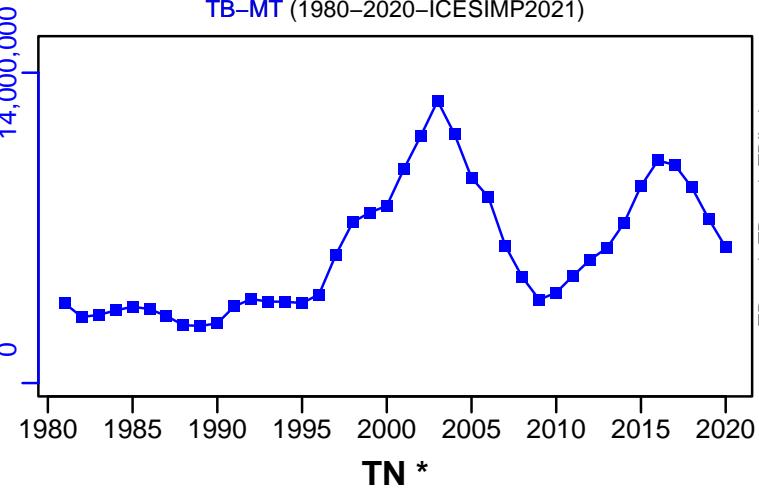
Production (1980–2020–ICESIMP2021)



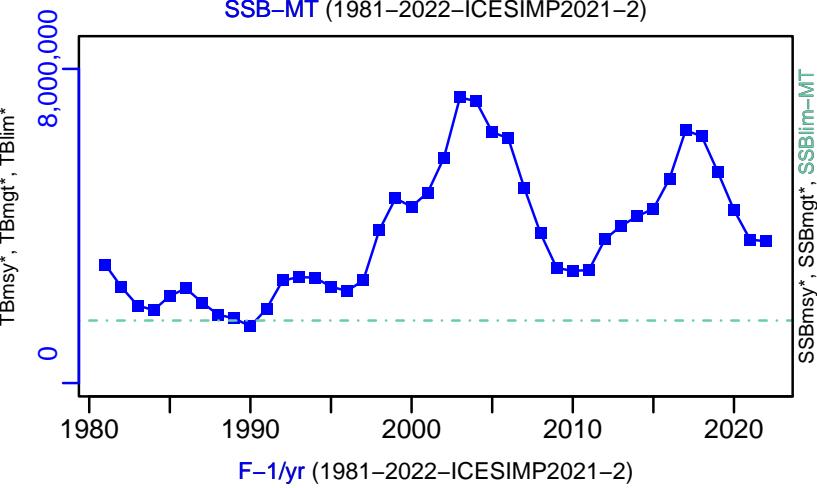
◆ Start Year   ◆ End Year   \* No Data

### Blue whiting Northeast Atlantic [BWHITNEA]

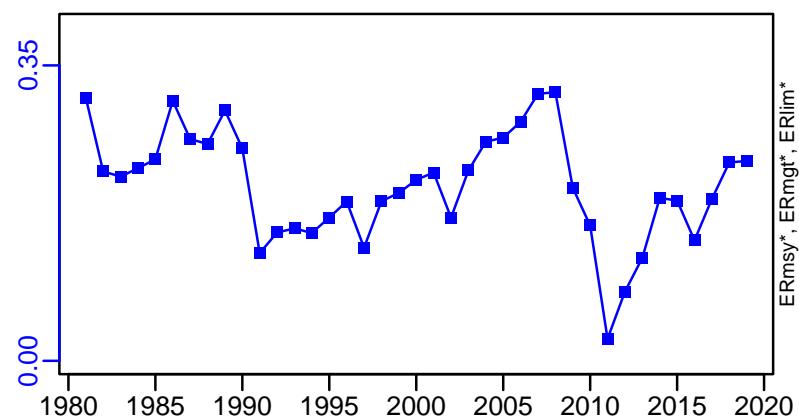
TB-MT (1980–2020–ICESIMP2021)



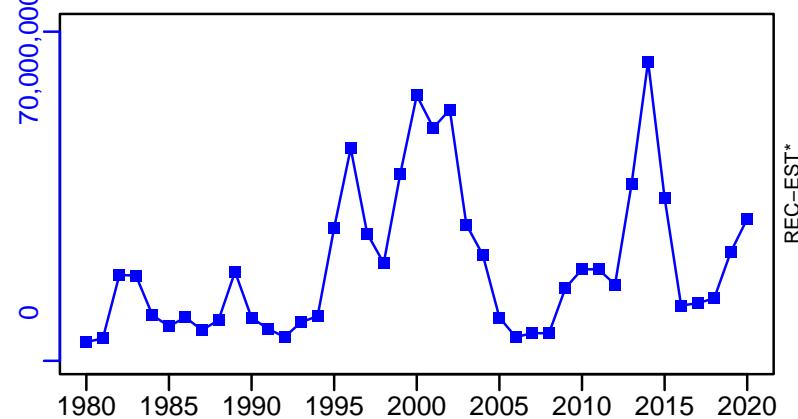
SSB-MT (1981–2022–ICESIMP2021–2)



ER-calc-ratio (1980–2020–ICESIMP2021)



R-E00 (1981–2022–ICESIMP2021–2)

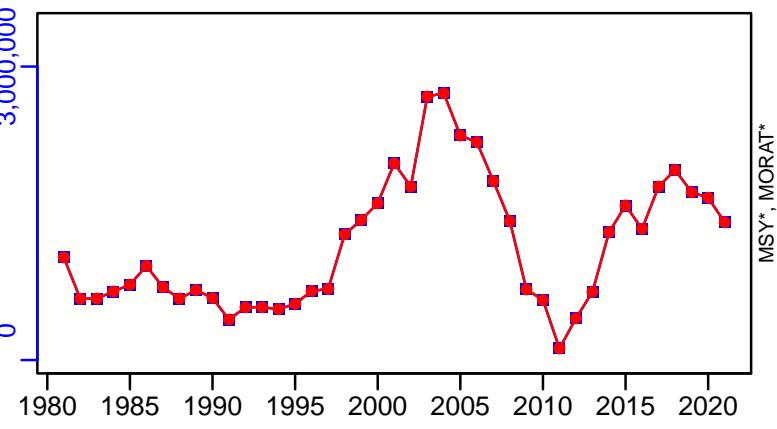


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	- - Lim BRP	* No Data

Blue whiting Northeast Atlantic [BWHITNEA]

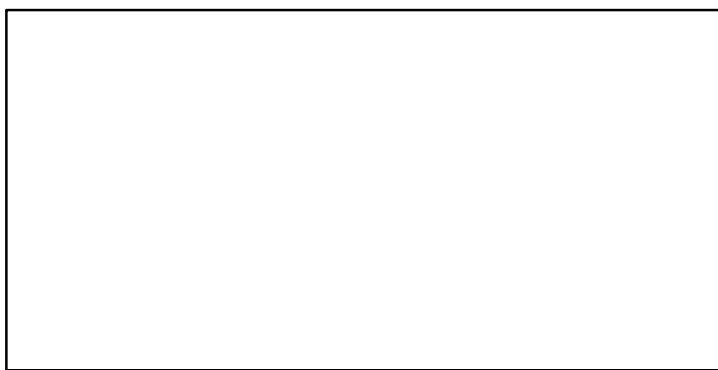
TC-MT, TL-MT, RecC\* (1981–2022–ICESIMP2021–2)

TAC\*, Cpair\*, Cadv\*



survB\*

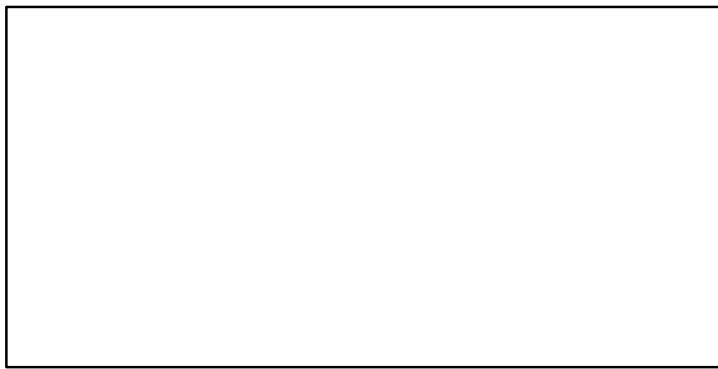
MSY\*, MORAT\*



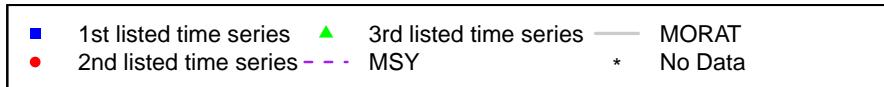
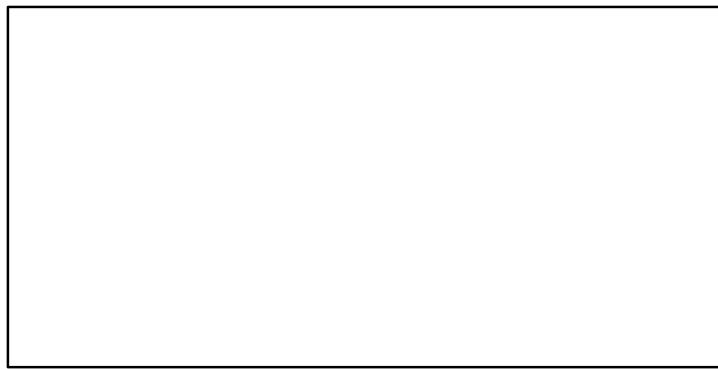
CPUE\*



EFFORT\*



CdivMSY\*



## Shallow water cape hake South Africa [CHAKESA]

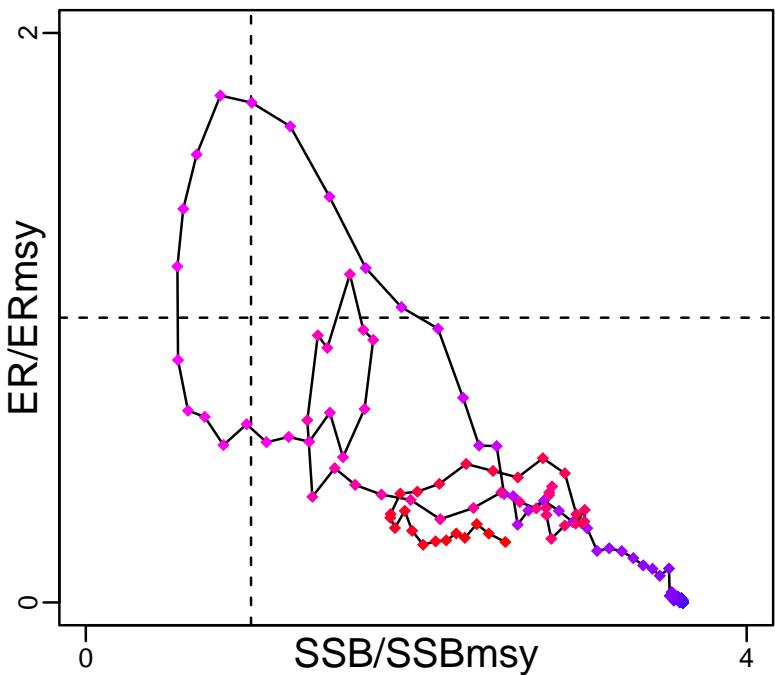
<b>Metadata</b>	
<b>Scientific Name</b>	Merluccius capensis
<b>Current Assess ID</b>	MARAM-CHAKESA-1900-2021-ROSSGILLESPIE
<b>Area</b>	South Africa
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine Resource Assessment and Management Group, Department of Mathematics and Applied Mathematics, University of Cape Town, Rondebosch, 7701, South Africa
<b>Asmts in RAM</b>	2021, 2013, 2015

<b>Reference Points</b>				
Type	ID	Asmt Year	Value	
<b>TBmsy</b>	TBmsy-calc-MT	2021	198,715	
<b>SSBmsy</b>	SSBmsy-MT	2021	95,675	
<b>Fmsy</b>	Fmsy-1/yr	2013	0.32	
<b>ERrmsy</b>	ERrmsy-ratio	2021	0.4	
<b>TBmgt</b>	-	-	-	
<b>SSBmgt</b>	SSBmgt-MT	2021	95,675	
<b>Fmgt</b>	-	-	-	
<b>ERmgt</b>	ERmgt-ratio	2021	0.4	
<b>TB0</b>	TB0-MT	2021	777,623	
<b>SSB0</b>	SSB0-MT	2021	345,826	
<b>MSY</b>	MSY-MT	2021	79,486	
<b>M</b>	M-1/yr	2021	0.555	
<b>TBlim</b>	TBlim-MT	2013	43,000	
<b>SSBlim</b>	SSBlim-MT	2021	53,041	
<b>Flim</b>	-	-	-	
<b>ERlim</b>	-	-	-	

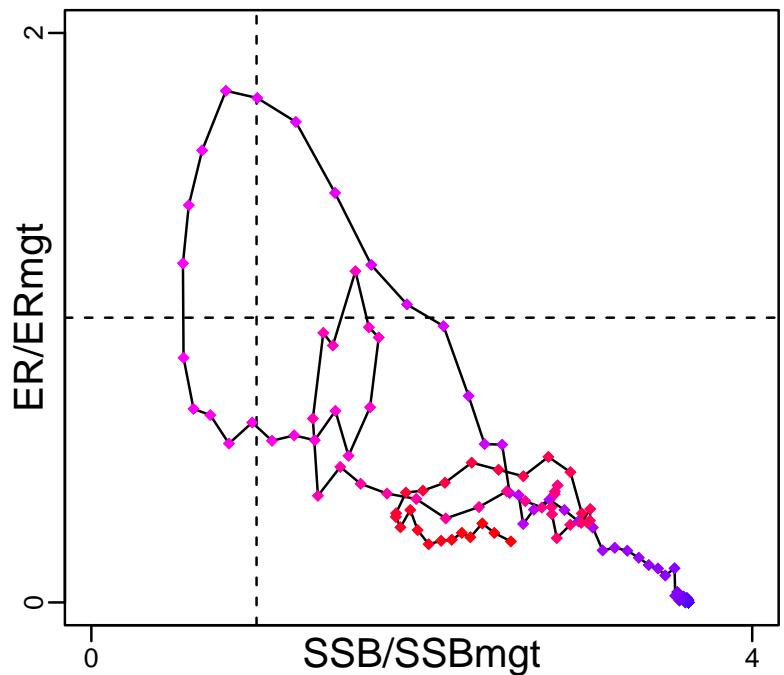
<b>Time Series</b>						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2021	660,767	Both	0+	
<b>SSB</b>	SSB-MT	2021	242,925	Females	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2021	500,565,000	Both	-	
<b>F</b>	-	-	-	-	-	
<b>ER</b>	ER-ratio	2021	0.086	Both	0+	
<b>TC</b>	TC-MT	2021	27,625			
<b>TL</b>	TL-MT	2021	27,625			
<b>TB/TBmsy</b>	TB-MT/TBmsy-calc-MT	2021	3.325			
<b>SSB/SSBmsy</b>	SSBdivSSBmsy-dimensionless	2021	2.539			
<b>F/Fmsy</b>	-	-	-			
<b>ER/ERrmsy</b>	ERdivERrmsy-dimensionless	2021	0.212			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2021	2.539			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

Shallow water cape hake South Africa [CHAKESA]

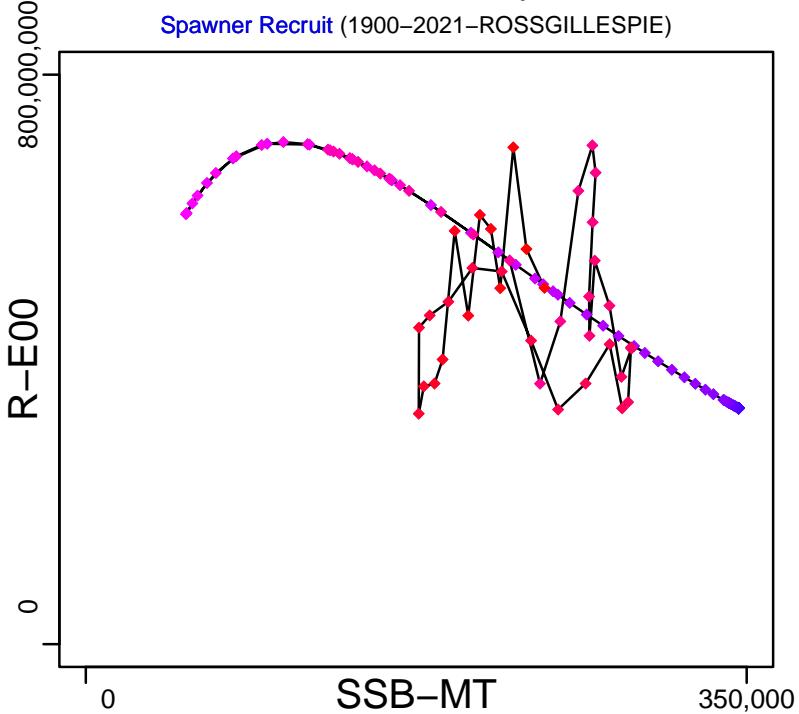
Kobe MSYpref (1900–2021–ROSSGILLESPIE)



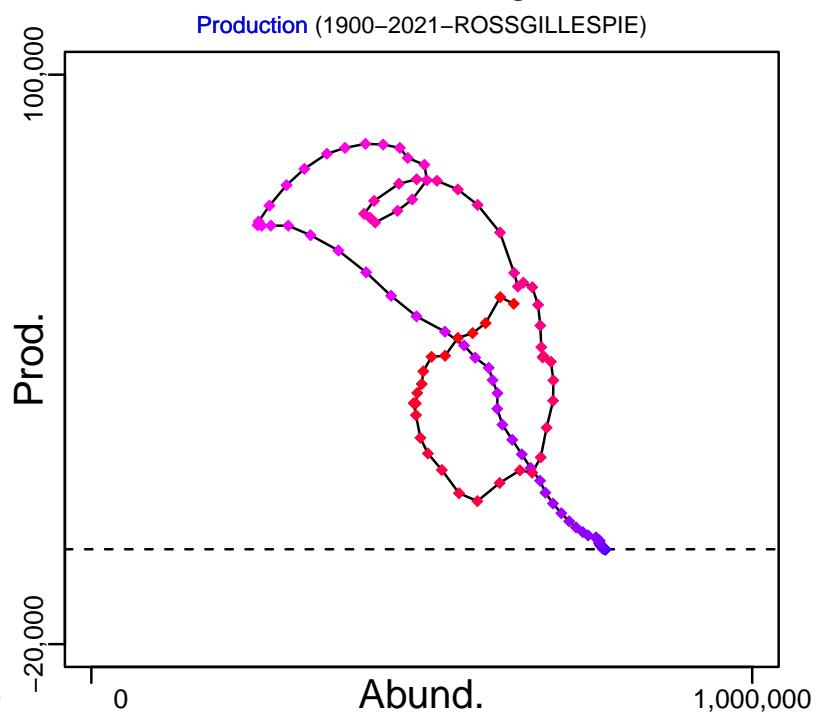
Kobe MGTpref (1900–2021–ROSSGILLESPIE)



Spawner Recruit (1900–2021–ROSSGILLESPIE)



Production (1900–2021–ROSSGILLESPIE)

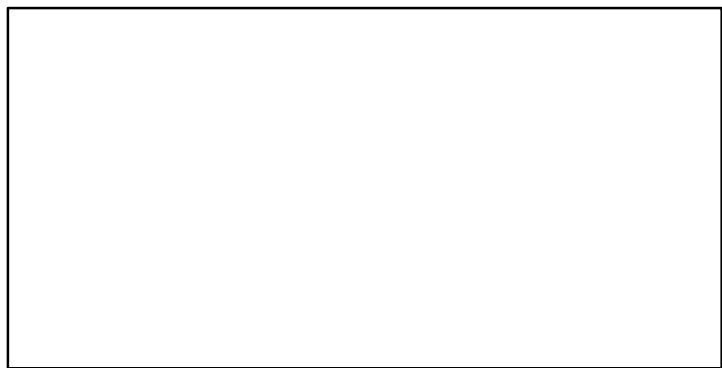
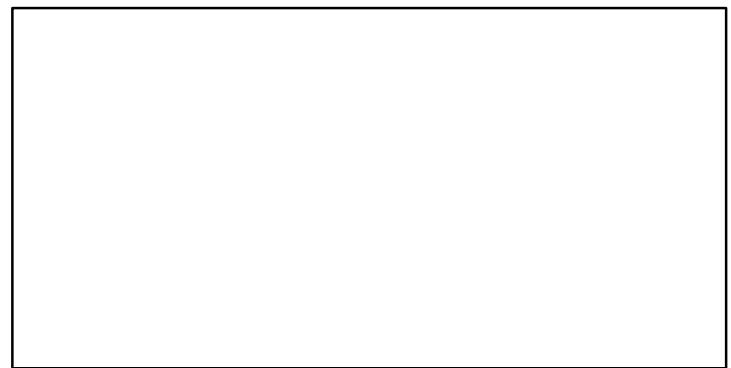
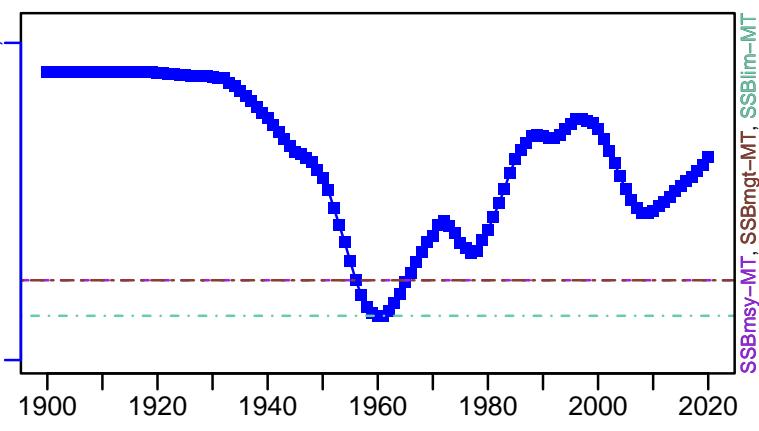
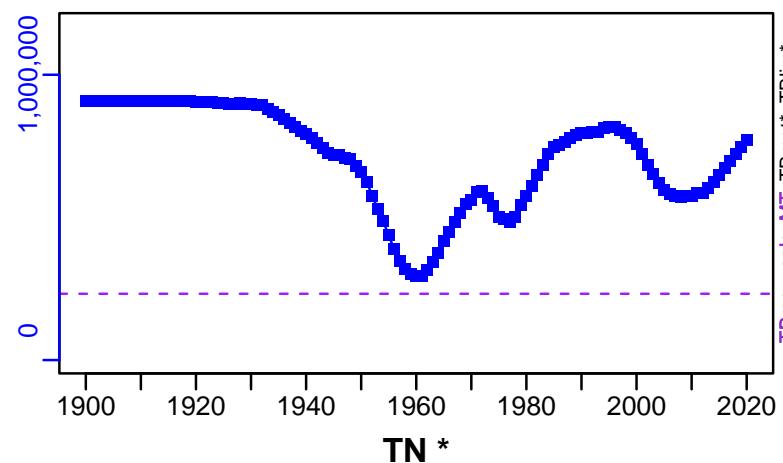


◆ Start Year	◆ End Year	*	No Data
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### Shallow water cape hake South Africa [CHAKESA]

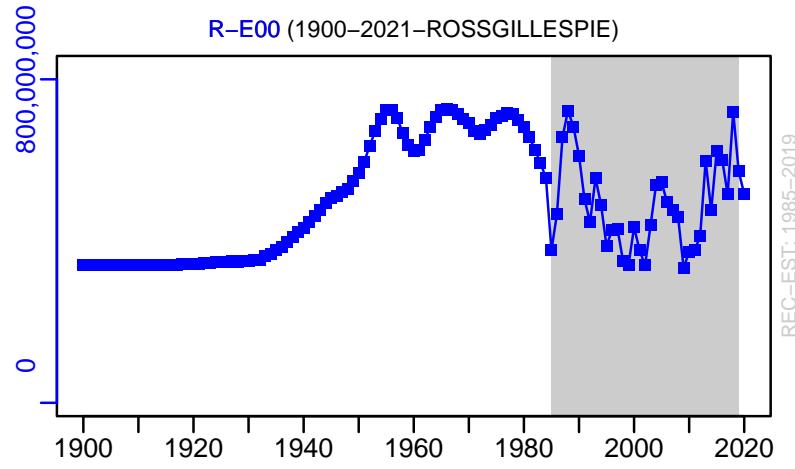
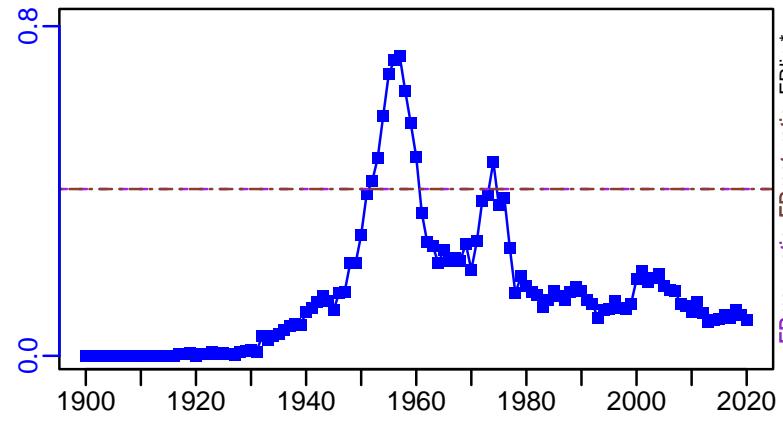
TB-MT (1900–2021–ROSSGILLESPIE)

SSB-MT (1900–2021–ROSSGILLESPIE)



ER-ratio (1900–2021–ROSSGILLESPIE)

R-E00 (1900–2021–ROSSGILLESPIE)

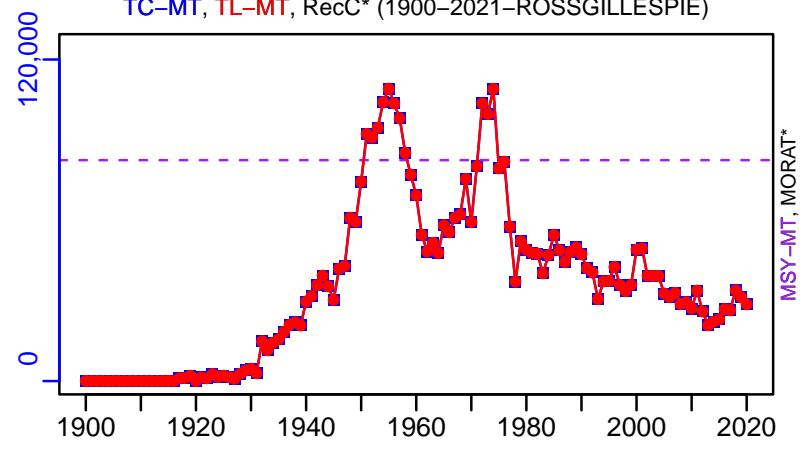


■ Listed time series	— Target BRP	— Rec-Est
— MSY-based BRP	--- Lim BRP	* No Data

Shallow water cape hake South Africa [CHAKESA]

TC-MT, TL-MT, RecC\* (1900–2021–ROSSGILLESPIE)

TAC\*, Cpair\*, Cadv\*

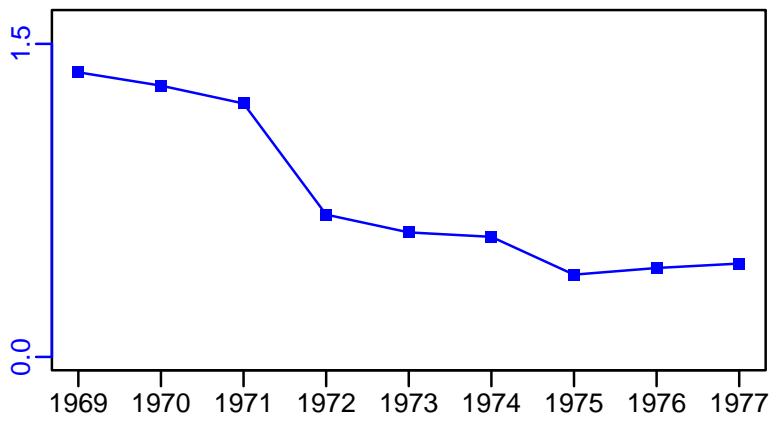


MSY-MT, MORAT\*

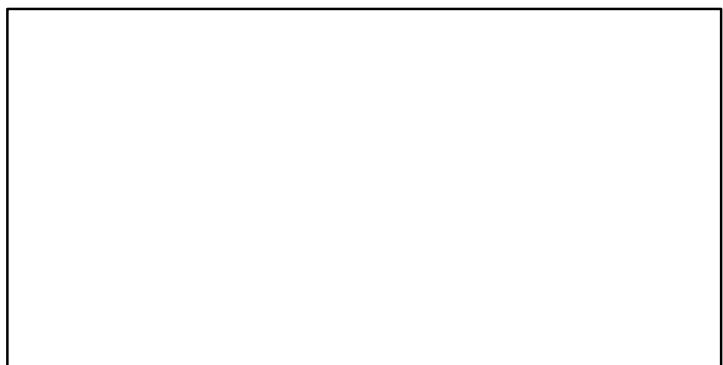
survB\*



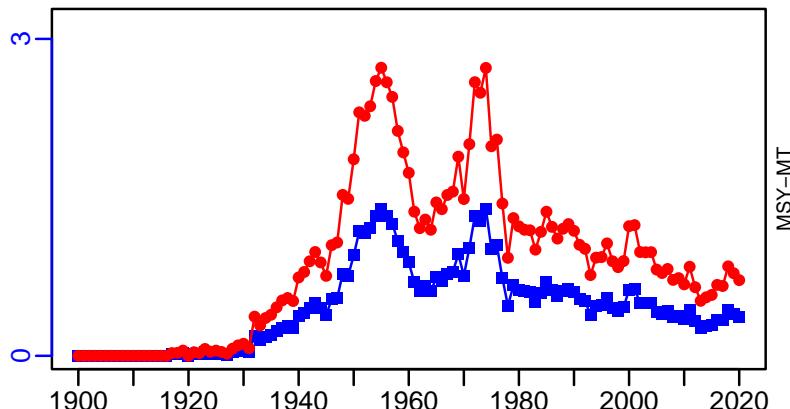
CPUE-index (1900–2021–ROSSGILLESPIE)



EFFORT\*



TC-MT/MSY-MT, CdivMEANC-ratio, (1900–2021–ROSSGILLESPIE)



MSY-MT



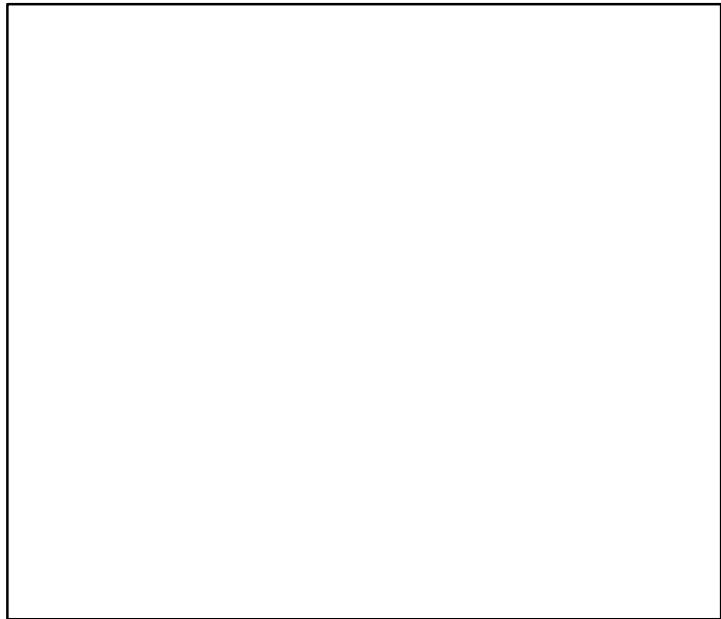
## Atlantic cod NAFO 1ABCDE [COD1ABCDE]

<b>Metadata</b>	
<b>Scientific Name</b>	Gadus morhua
<b>Current Assess ID</b>	NWWG-COD1ABCDE-1952-2016-ICESIMP2018
<b>Area</b>	NAFO 1ABCDE
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	North-Western Working Group
<b>Asmts in RAM</b>	2015, 2016

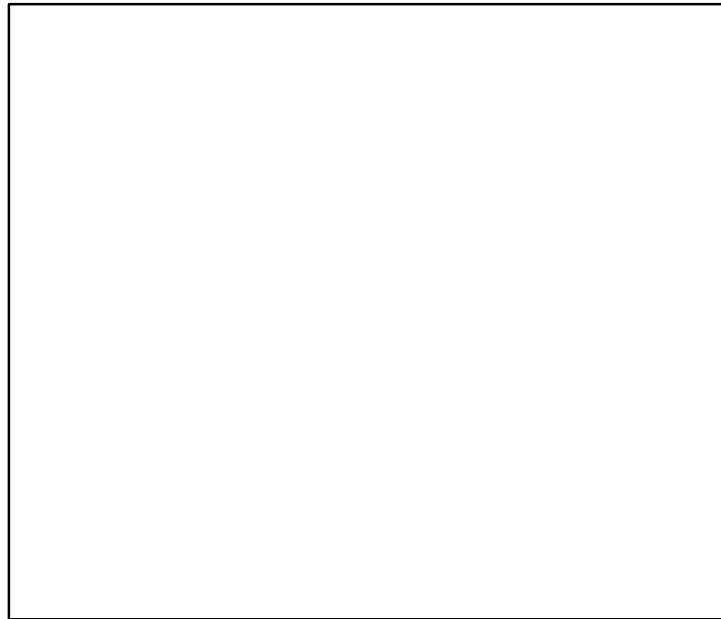
<b>Reference Points</b>			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>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

<b>Time Series</b>					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2016	3740		
<b>TL</b>	TL-MT	2015	4860		
<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>	-	-	-		

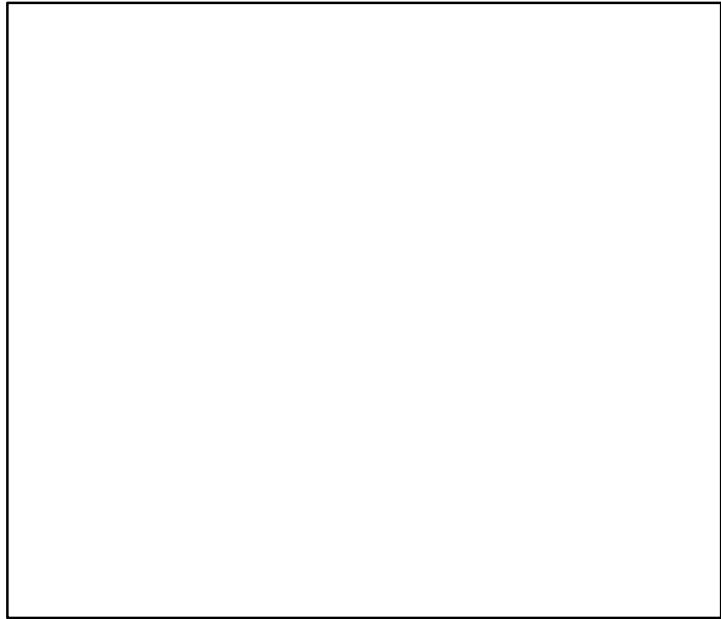
**Kobe MSY\***



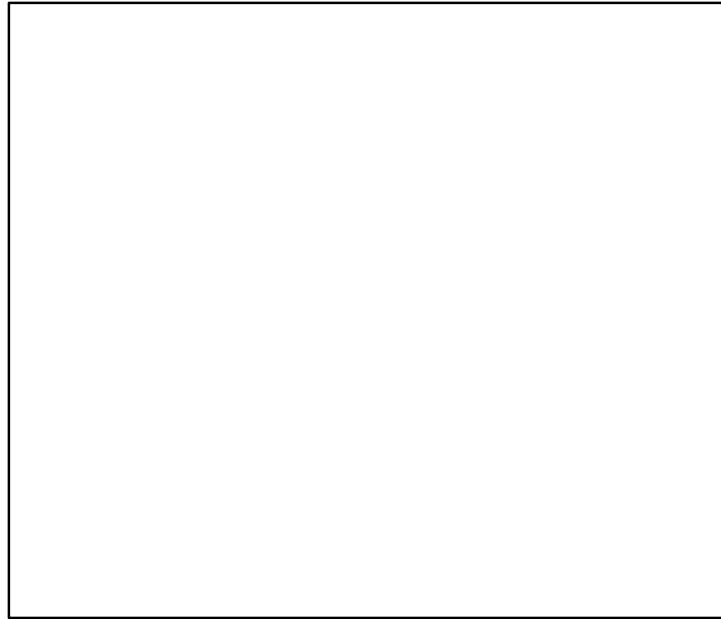
**Kobe MGT\***



**Spawner Recruit\***



**Production\***



◆ Start Year ♦ End Year \* No Data

Atlantic cod NAFO 1ABCDE [COD1ABCDE]

**TB\***



**SSB\***



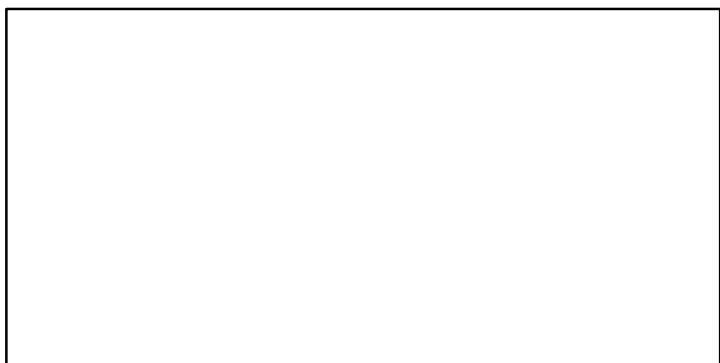
**TN \***



**F\***



**ER\***



**Recruits\***

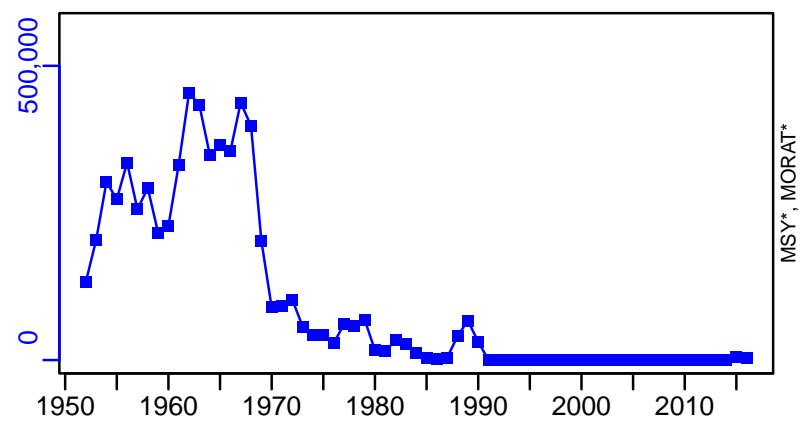


- |       |                    |       |            |   |         |
|-------|--------------------|-------|------------|---|---------|
| ■     | Listed time series | - - - | Target BRP | — | Rec-Est |
| - - - | MSY-based BRP      | - - - | Lim BRP    | * | No Data |

Atlantic cod NAFO 1ABCDE [COD1ABCDE]

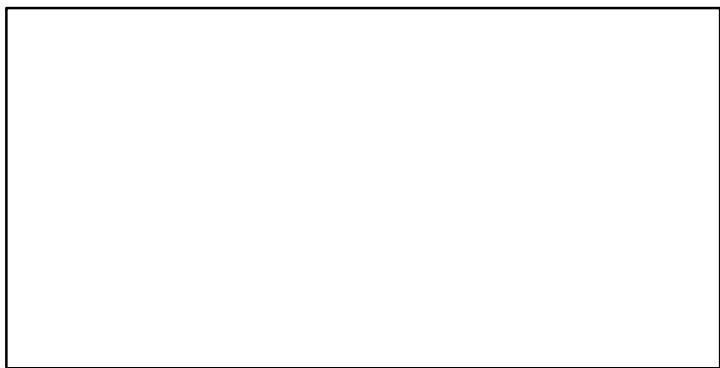
TC-MT, TL\*, RecC\* (1952–2016—ICESIMP2018)

TAC\*, Cpair\*, Cadv\*

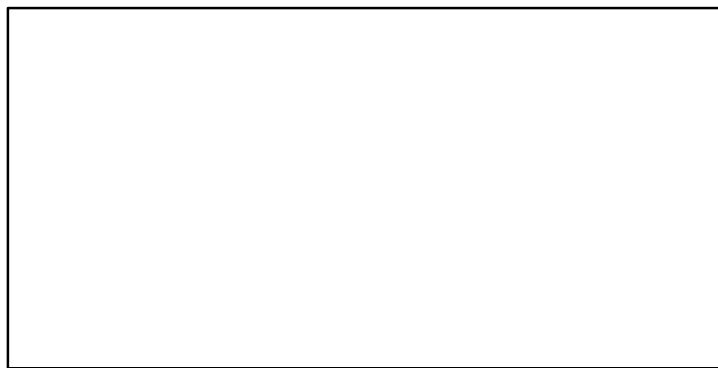


survB\*

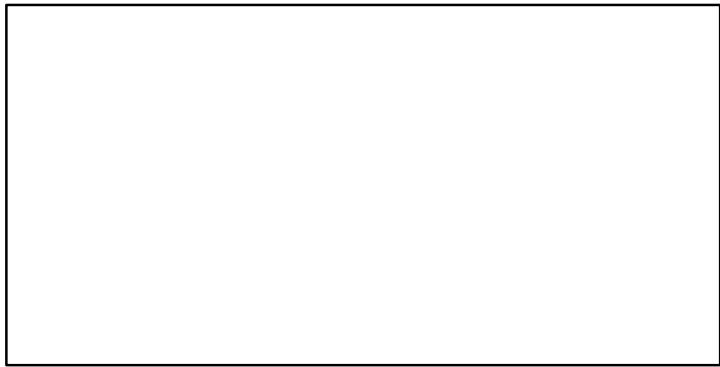
MSY\*, MORAT\*



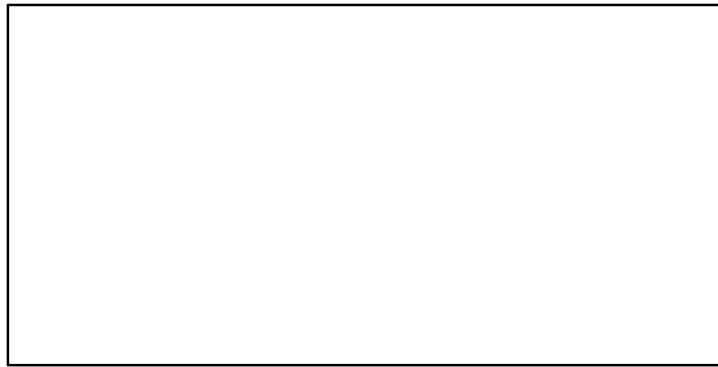
CPUE\*



EFFORT\*



CdivMSY\*



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

## Atlantic cod NAFO 1F and ICES 14 [COD1F-XIV]

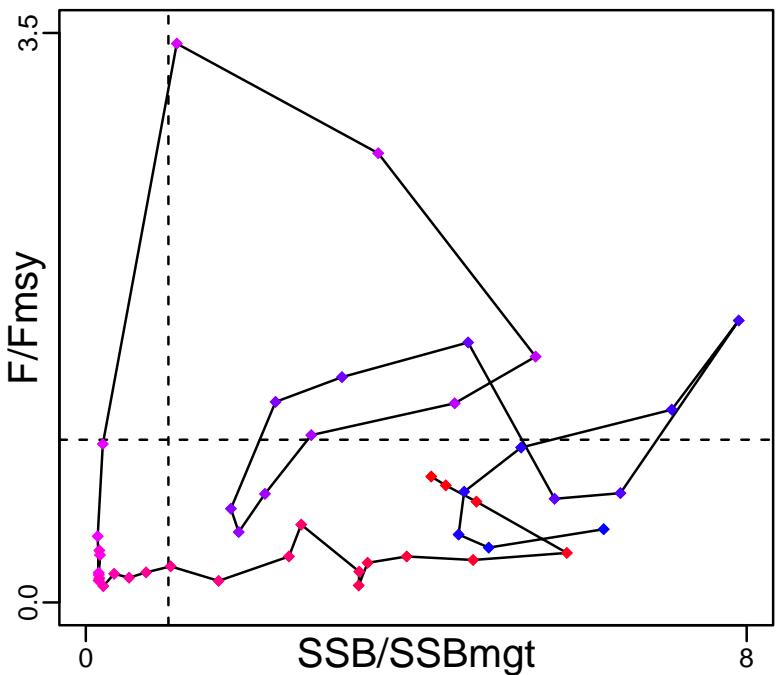
<b>Metadata</b>	
<b>Scientific Name</b>	Gadus morhua
<b>Current Assess ID</b>	NWWG-COD1F-XIV-1973-2021-ICESIMP2021-2
<b>Area</b>	NAFO 1F and ICES 14
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	North-Western Working Group
<b>Asmts in RAM</b>	2015, 2016, 2018, 2019, 2020, 2021

<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2021	0.29
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2018	14,803
<b>Fmgt</b>	Fmgt-1/yr	2021	0.29
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2021	11,700
<b>Flim</b>	Flim-1/yr	2021	1.98
<b>ERlim</b>	-	-	-

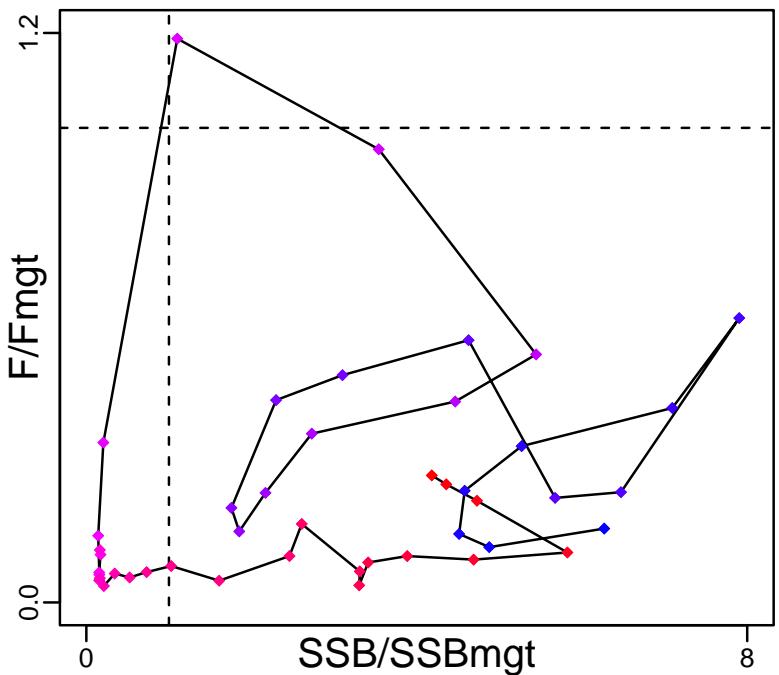
<b>Time Series</b>					
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Curr Value</b>	<b>Sex</b>	<b>Age</b>
<b>TB</b>	TB-MT	2019	62,429	-	-
<b>SSB</b>	SSB-MT	2021	65,800	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2021	6,930,000	-	1
<b>F</b>	F-1/yr	2021	0.369	-	-
<b>ER</b>	ER-calc-ratio	2019	0.241	-	-
<b>TC</b>	TC-MT	2021	15,900		
<b>TL</b>	TL-MT	2020	18,100		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2021	1.272		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2018	2.743		
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2021	1.272		
<b>ER/ERmgt</b>	-	-	-		

Atlantic cod NAFO 1F and ICES 14 [COD1F-XIV]

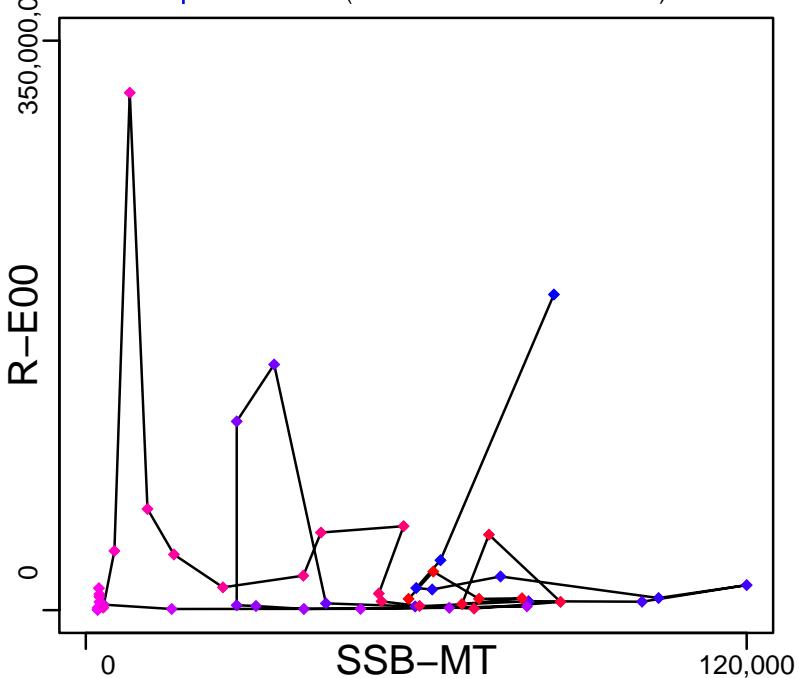
Kobe MSYpref (1972–2018–ICESIMP2018)



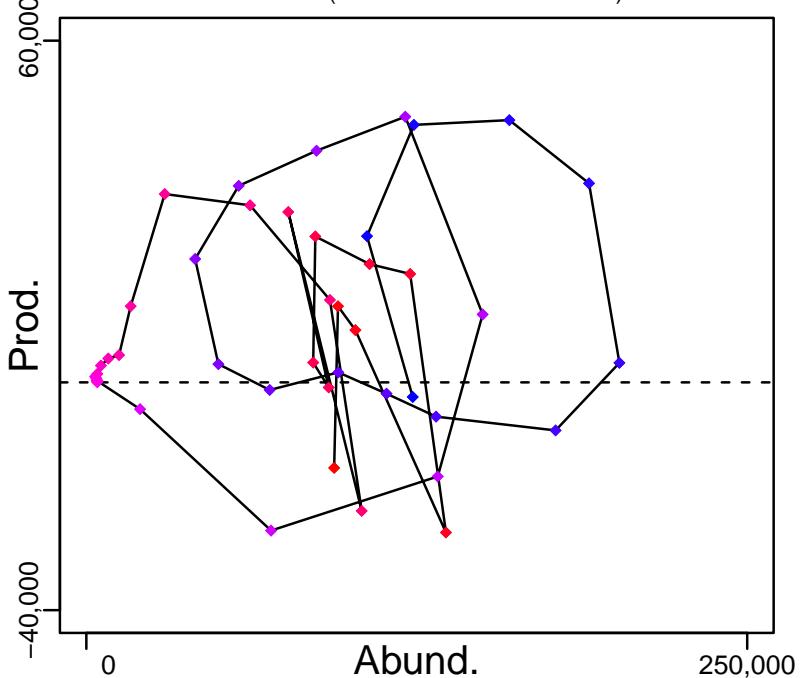
Kobe MGTpref (1972–2018–ICESIMP2018)



Spawner Recruit (1973–2021–ICESIMP2021-2)



Production (1972–2019–ICESIMP2021)

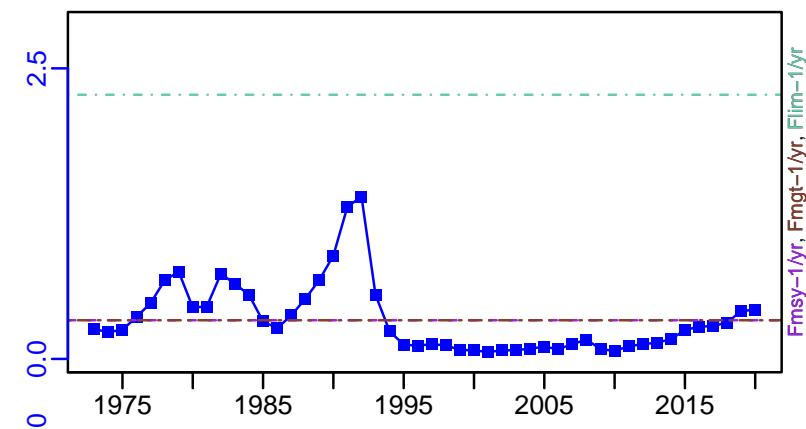
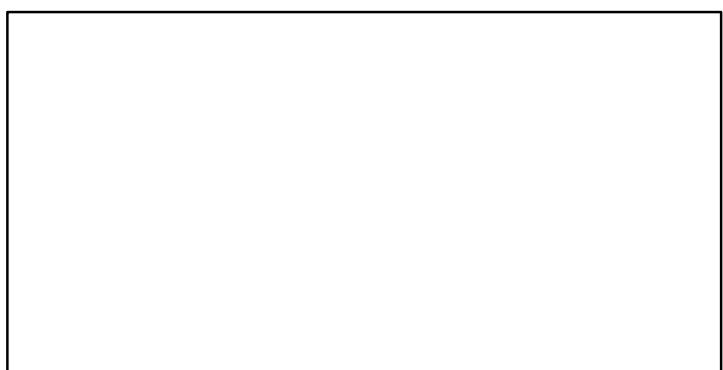
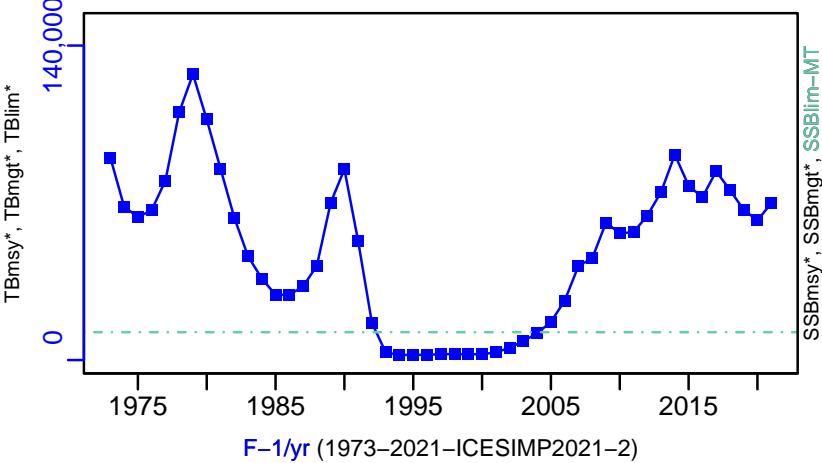
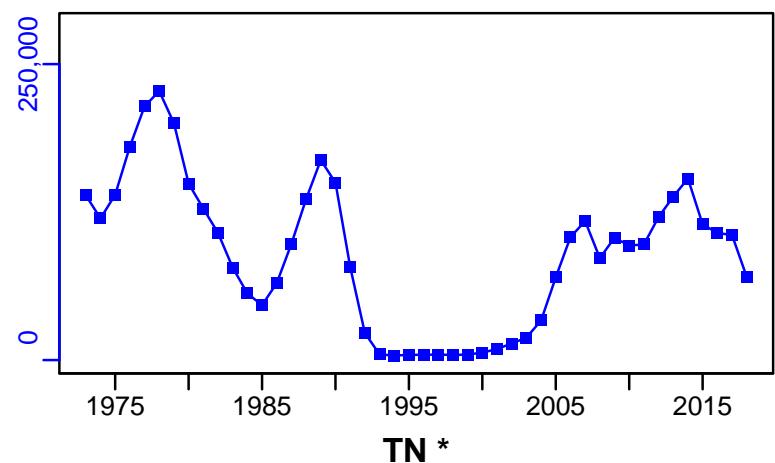


◆ Start Year   ◆ End Year   \* No Data

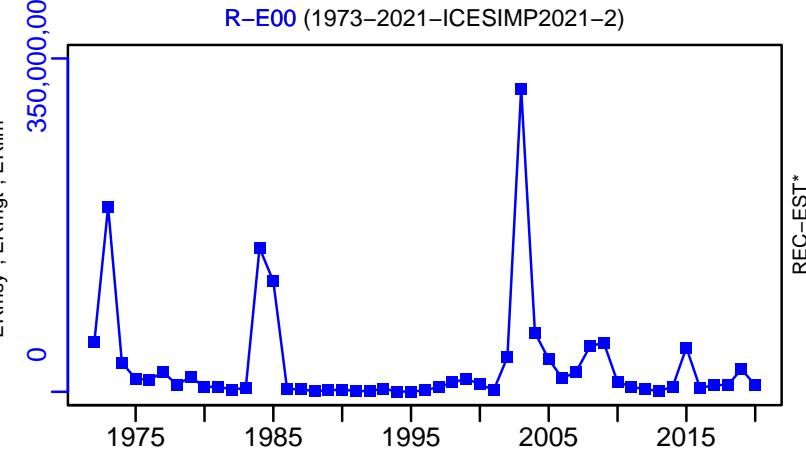
### Atlantic cod NAFO 1F and ICES 14 [COD1F-XIV]

**TB-MT** (1972–2019–ICESIMP2021)

**SSB-MT** (1973–2021–ICESIMP2021–2)



**ER-calc-ratio** (1972–2019–ICESIMP2021)

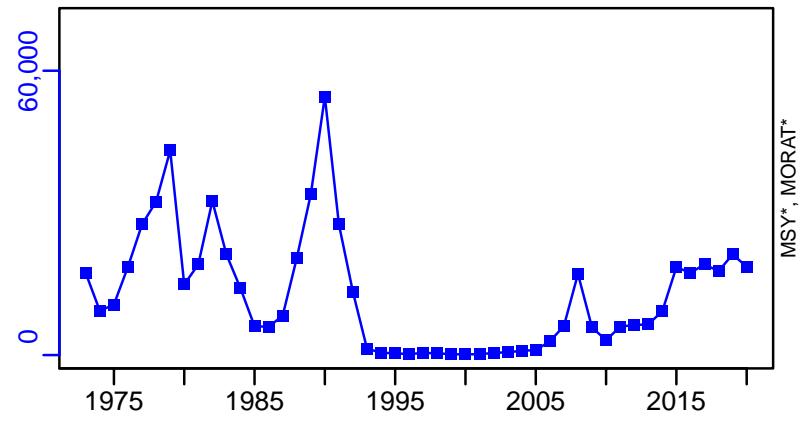


■ Listed time series	— Target BRP	— Rec-Est
— MSY-based BRP	··· Lim BRP	* No Data

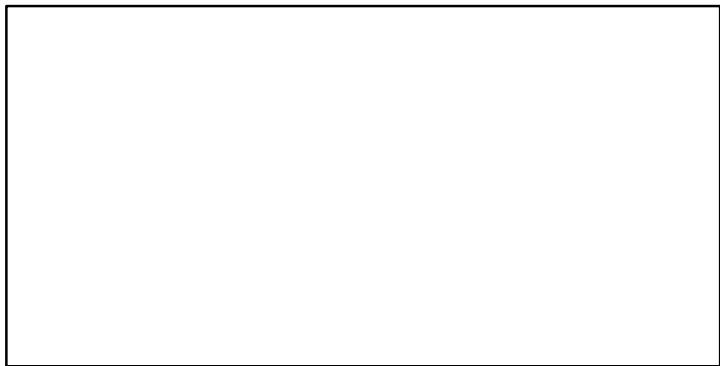
Atlantic cod NAFO 1F and ICES 14 [COD1F-XIV]

TC-MT, TL\*, RecC\* (1973–2021–ICESIMP2021–2)

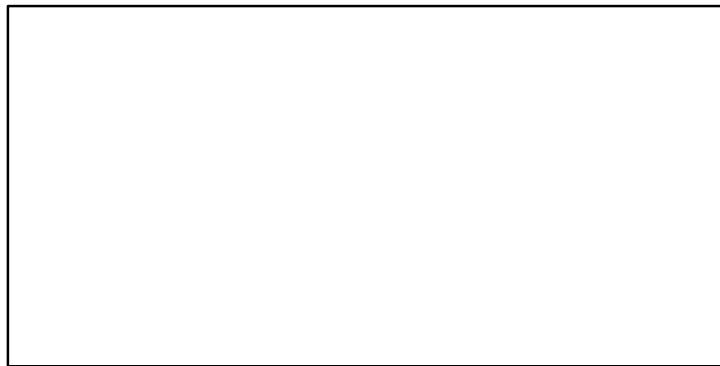
TAC\*, Cpair\*, Cadv\*



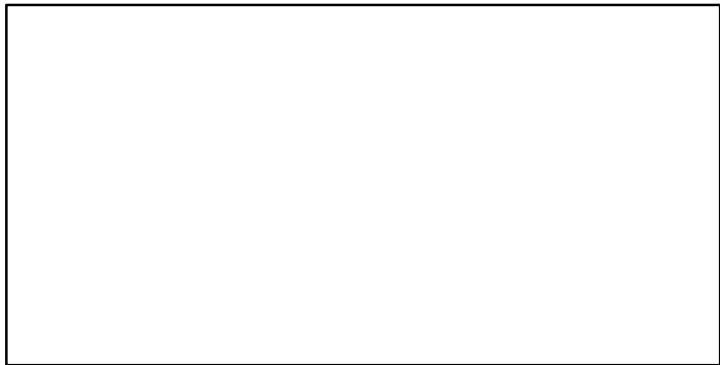
survB\*



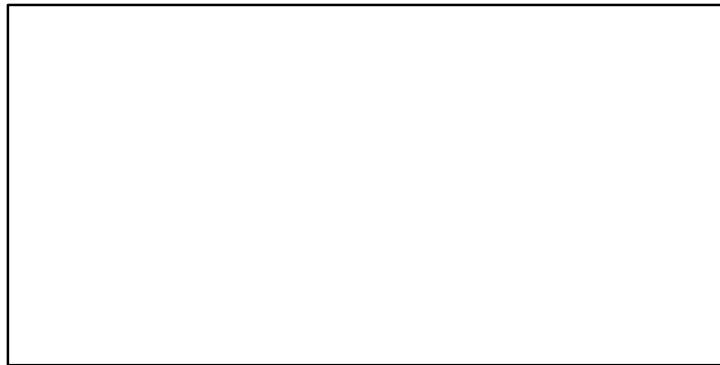
CPUE\*



EFFORT\*



CdivMSY\*



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

## Atlantic cod NAFO Subarea 1 (inshore) [COD1IN]

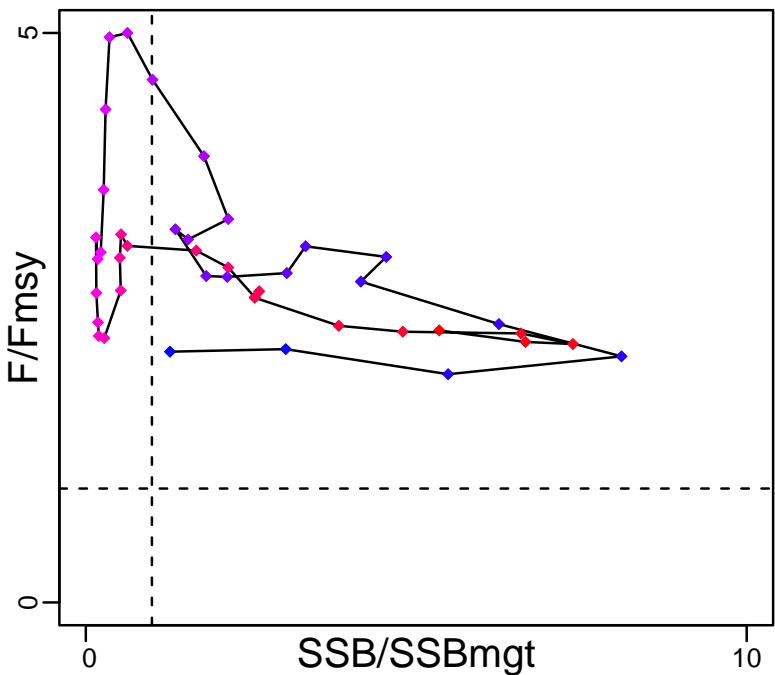
<b>Metadata</b>	
<b>Scientific Name</b>	Gadus morhua
<b>Current Assess ID</b>	NWWG-COD1IN-1976-2021-ICESIMP2021-2
<b>Area</b>	NAFO Subarea 1 (inshore)
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	North-Western Working Group
<b>Asmts in RAM</b>	2016, 2016, 2018, 2019, 2020, 2021

<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2021	0.27
<b>ERrmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2018	5983
<b>Fmgt</b>	Fmgt-1/yr	2021	0.27
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2021	4350
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

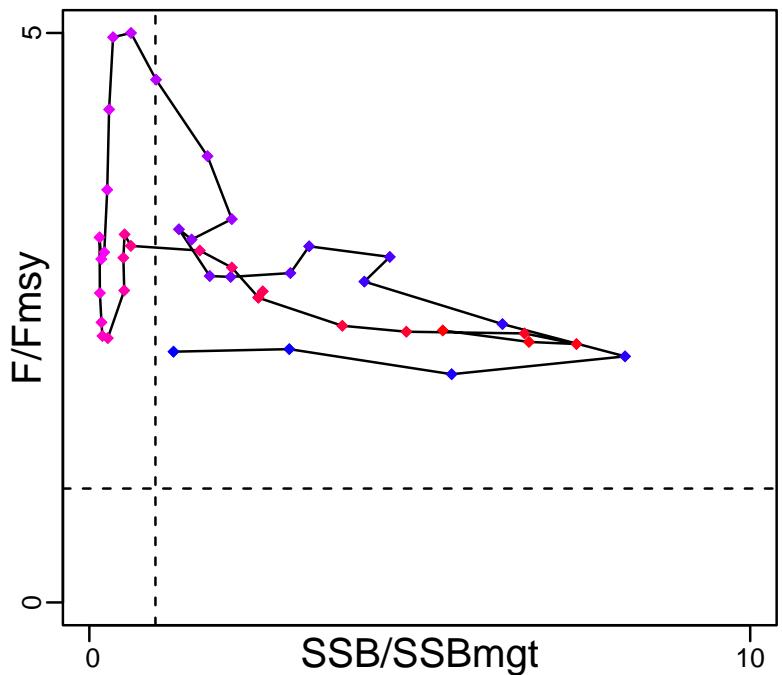
<b>Time Series</b>						
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Curr Value</b>	<b>Sex</b>	<b>Age</b>	
<b>TB</b>	TB-MT	2019	37,899	-	-	
<b>SSB</b>	SSB-MT	2021	23,000	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2021	11,700	-	1	
<b>F</b>	F-1/yr	2021	0.736	-	-	
<b>ER</b>	ER-calc-ratio	2019	0.588	-	-	
<b>TC</b>	TC-MT	2021	17,900			
<b>TL</b>	TL-MT	2020	19,800			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2021	2.726			
<b>ER/ERrmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2018	5.649			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2021	2.726			
<b>ER/ERmgt</b>	-	-	-			

Atlantic cod NAFO Subarea 1 (inshore) [COD1IN]

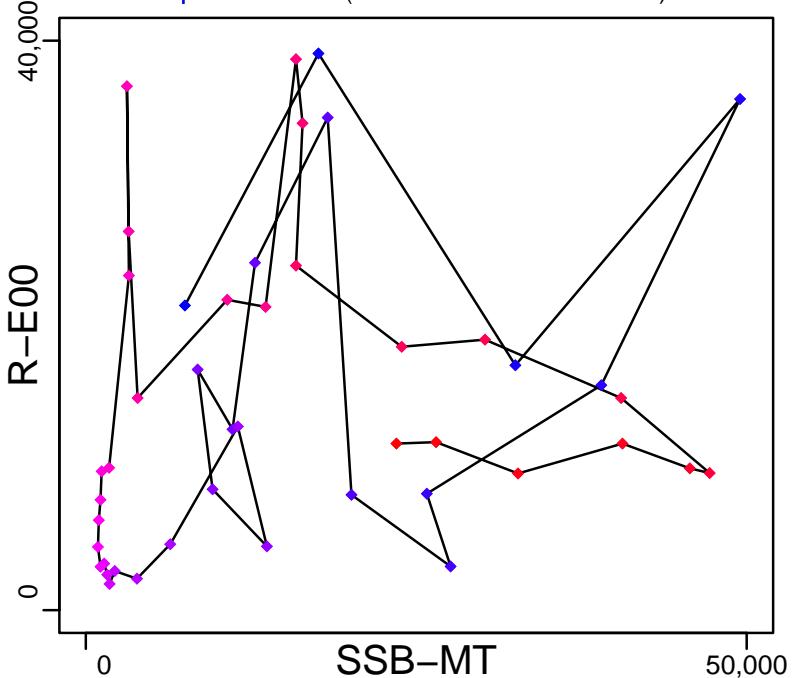
Kobe MSYpref (1975–2018–ICESIMP2018)



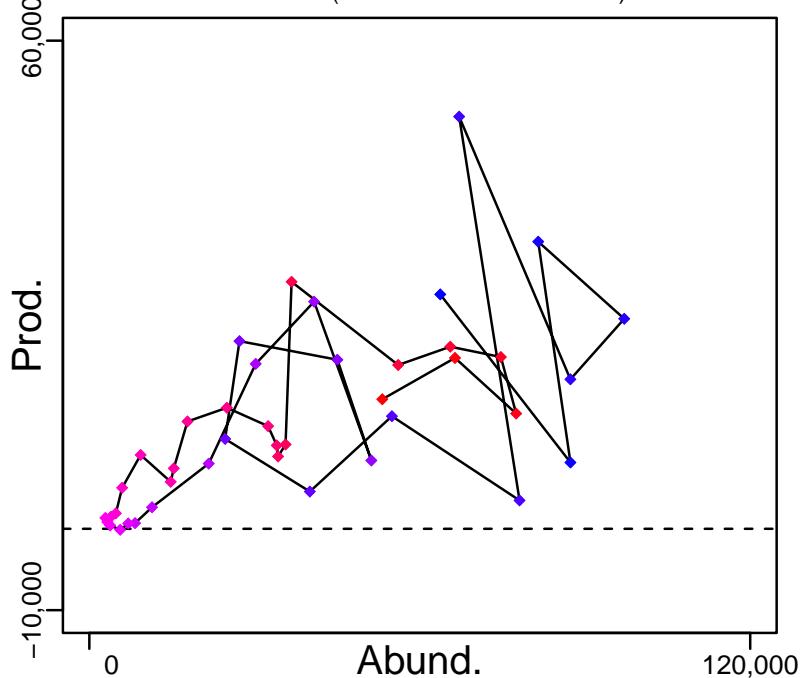
Kobe MGTpref (1975–2018–ICESIMP2018)



Spawner Recruit (1976–2021–ICESIMP2021–2)



Production (1975–2019–ICESIMP2021)

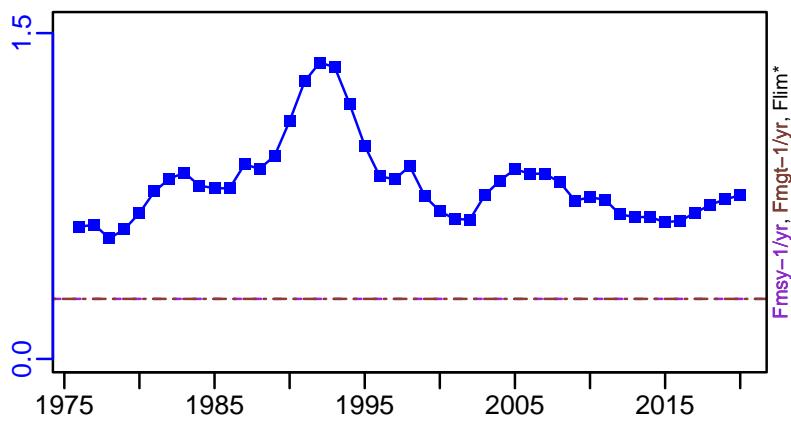
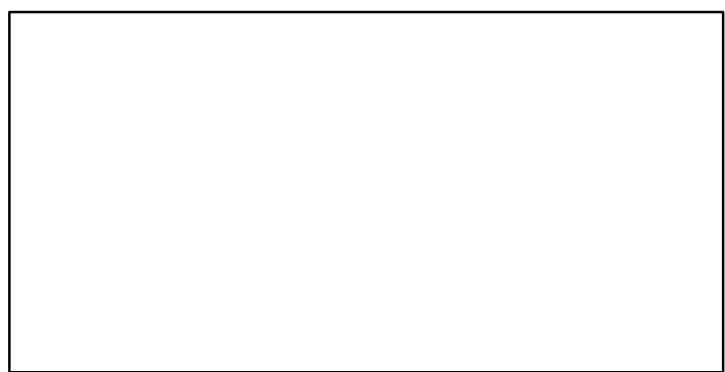
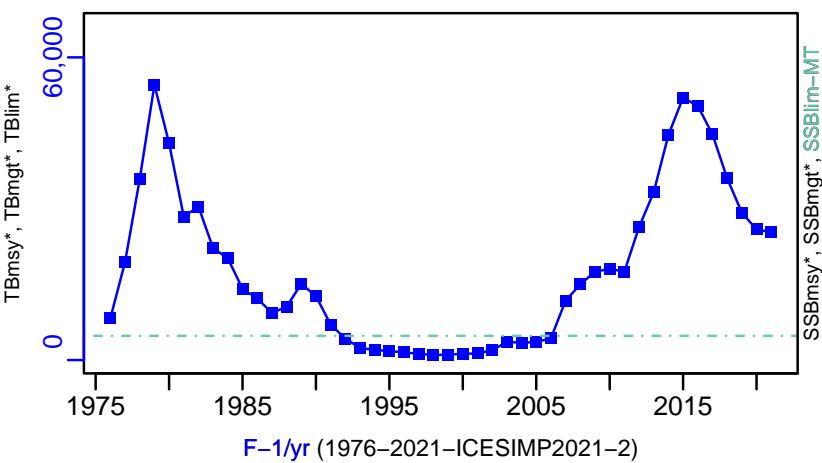
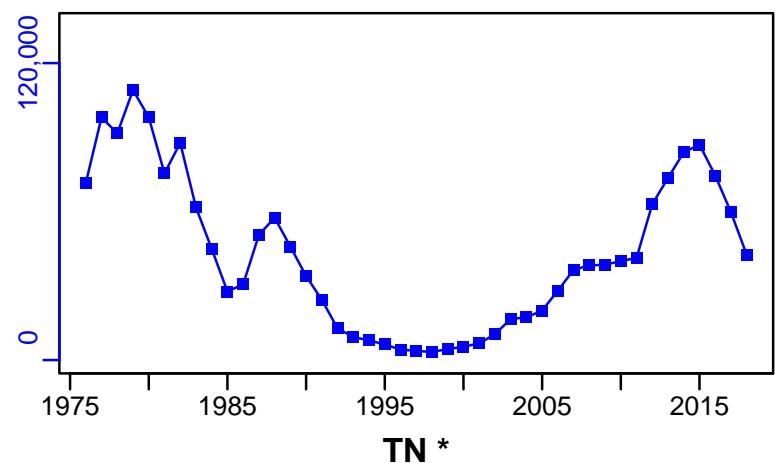


◆ Start Year   ◆ End Year   \* No Data

### Atlantic cod NAFO Subarea 1 (inshore) [COD1IN]

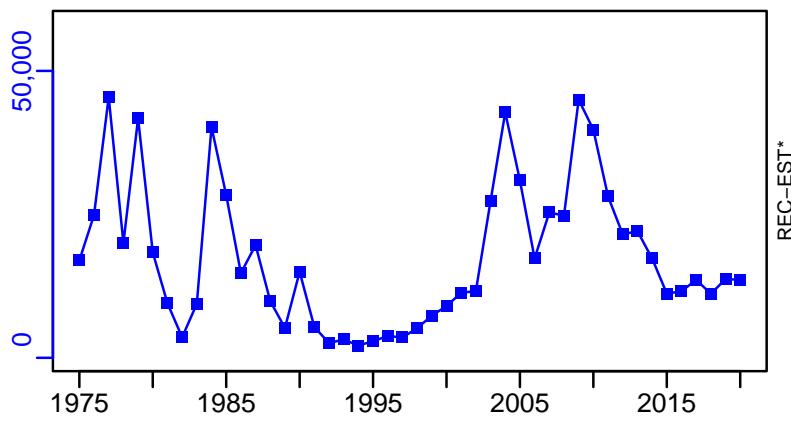
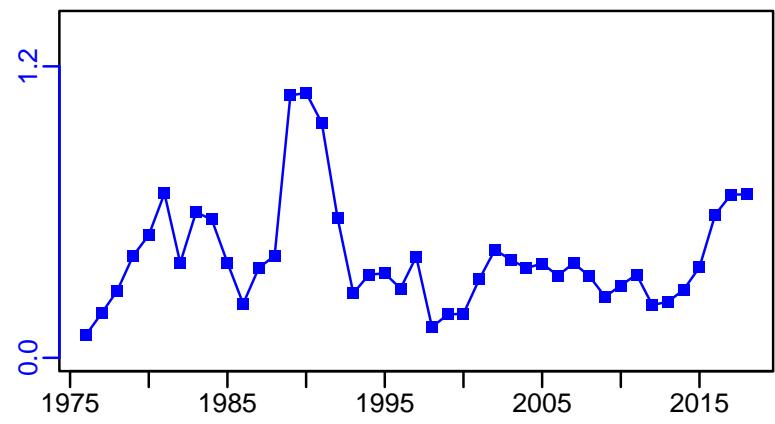
TB-MT (1975–2019–ICESIMP2021)

SSB-MT (1976–2021–ICESIMP2021–2)



ER-calc-ratio (1975–2019–ICESIMP2021)

R-E00 (1976–2021–ICESIMP2021–2)

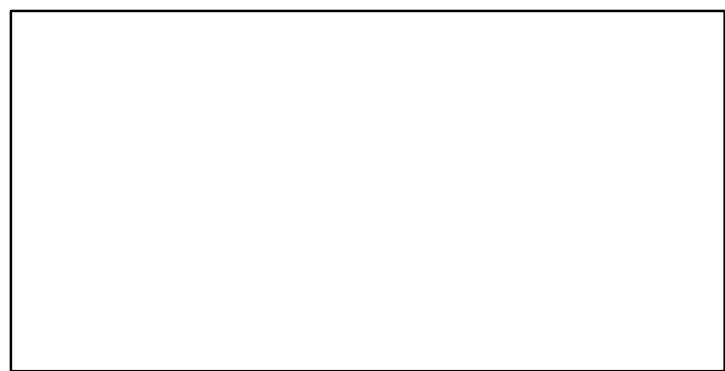
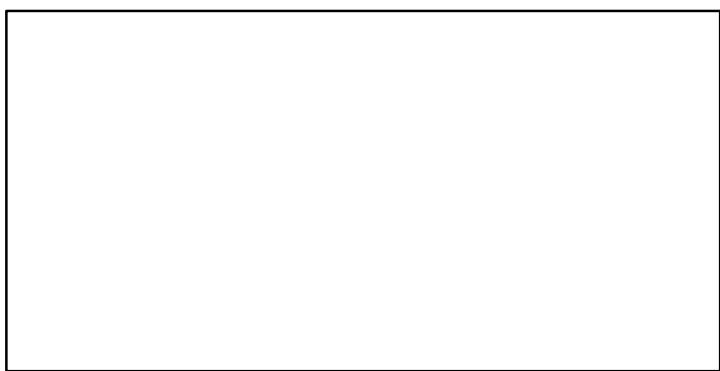
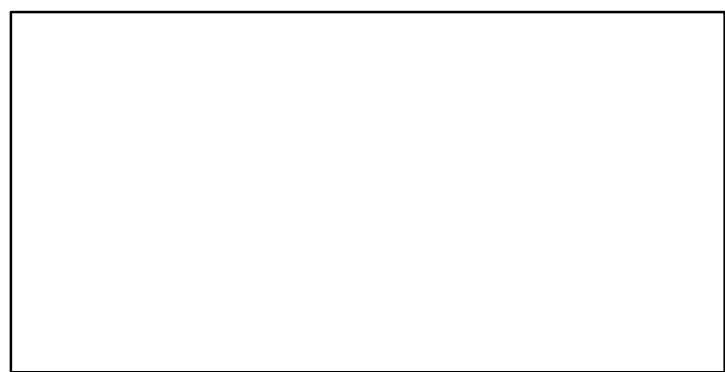
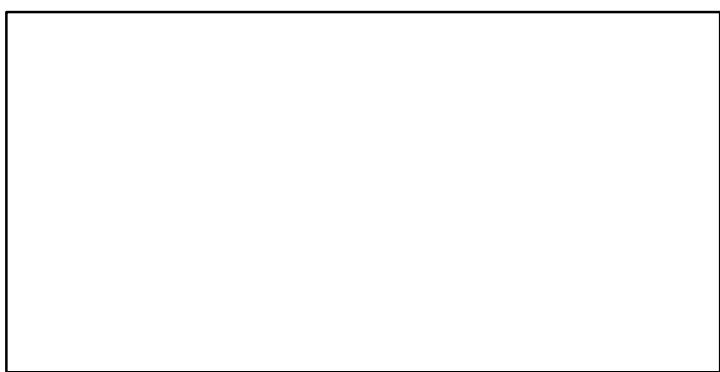
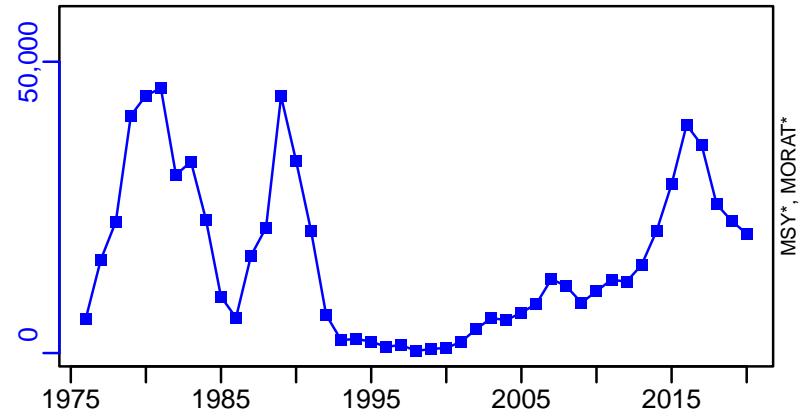


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	- - Lim BRP	* No Data

Atlantic cod NAFO Subarea 1 (inshore) [COD1IN]

TC-MT, TL\*, RecC\* (1976–2021–ICESIMP2021-2)

TAC\*, Cpair\*, Cadv\*



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

## Atlantic cod Southern Labrador-Eastern Newfoundland [COD2J3KL]

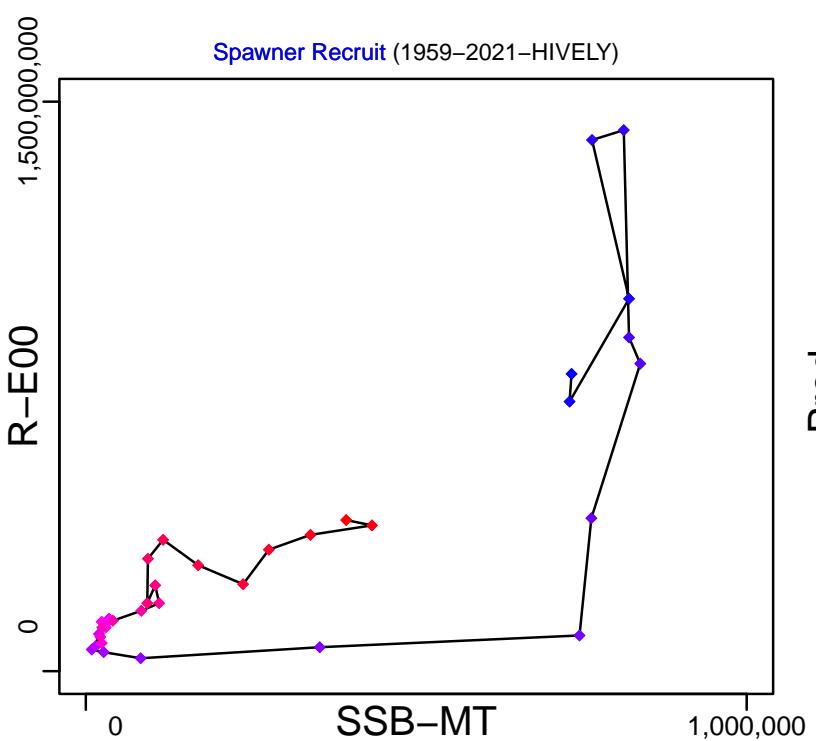
<b>Metadata</b>	
<b>Scientific Name</b>	Gadus morhua
<b>Current Assess ID</b>	DFO-NFLD-COD2J3KL-1959-2021-HIVELY
<b>Area</b>	Southern Labrador-Eastern Newfoundland
<b>Management Authority</b>	Department of Fisheries and Oceans, Canada national management
<b>Assessor</b>	Department of Fisheries and Oceans - Newfoundland Region
<b>Asmts in RAM</b>	2014, 2011, 2018, 2021

<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>	-	-	-	
<b>SSB0</b>	-	-	-	
<b>MSY</b>	-	-	-	
<b>M</b>	-	-	-	
<b>TBlim</b>	-	-	-	
<b>SSBlim</b>	SSBlim-MT	2018	932,432	
<b>Flim</b>	-	-	-	
<b>ERlim</b>	-	-	-	

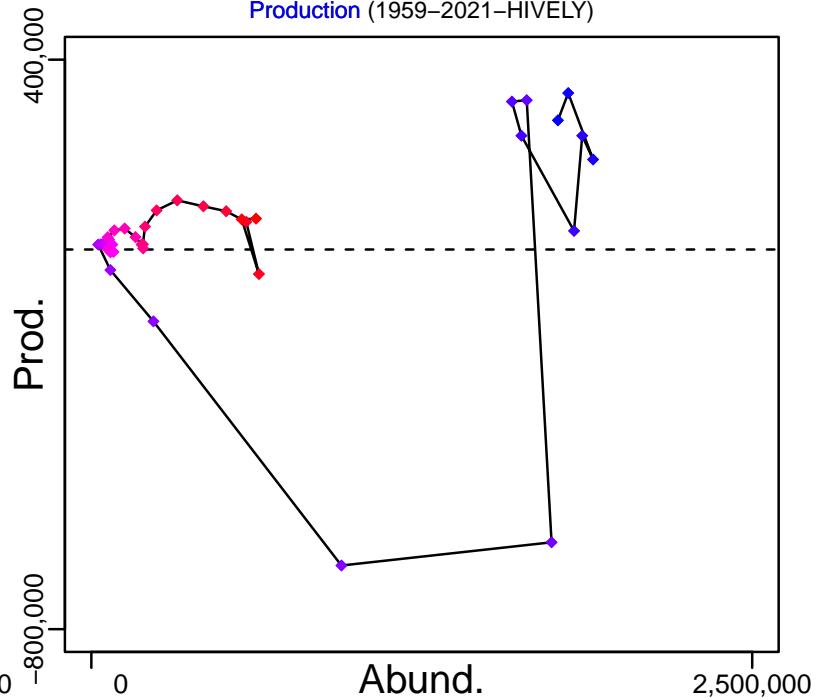
<b>Time Series</b>						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2021	643,000	-	2+	
<b>SSB</b>	SSB-MT	2021	411,000	-	-	
<b>TN</b>	TN-E00	2021	$1.126 \times 10^9$	-	-	
<b>R</b>	R-E00	2021	$3.98 \times 10^8$	-	2	
<b>F</b>	F-1/yr	2021	0.02	-	5 to 14	
<b>ER</b>	ER-calc-ratio	2021	0.015	-	-	
<b>TC</b>	TC-MT	2018	13,030			
<b>TL</b>	TL-MT	2021	10,183			
<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 (1959–2021–HIVELY)



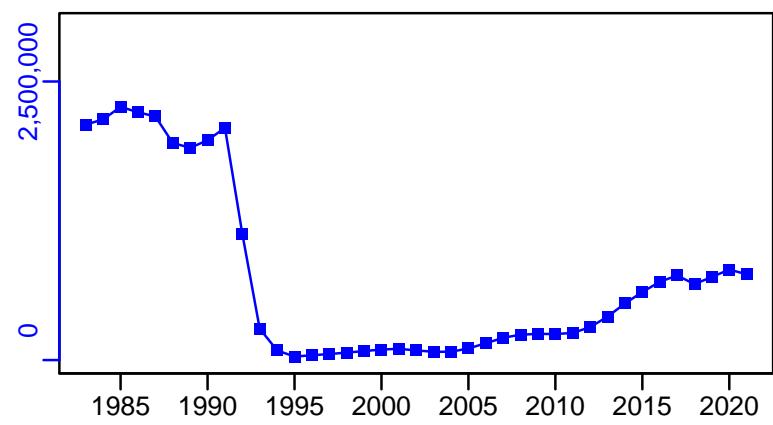
Production (1959–2021–HIVELY)



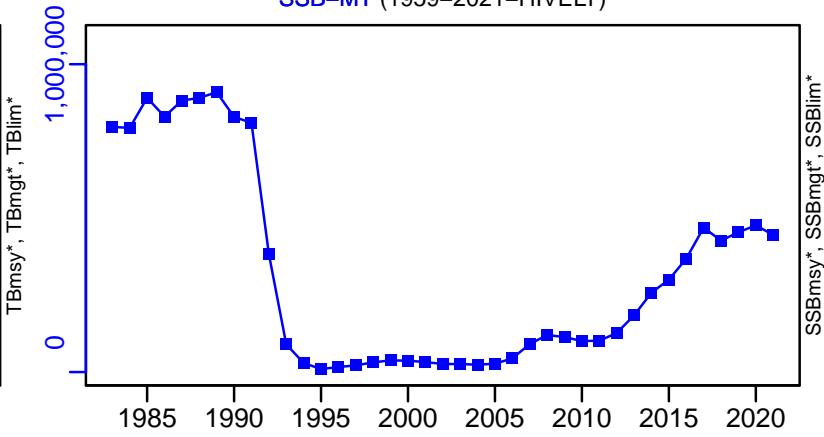
◆ Start Year   ◆ End Year   \* No Data

### Atlantic cod Southern Labrador–Eastern Newfoundland [COD2J3KL]

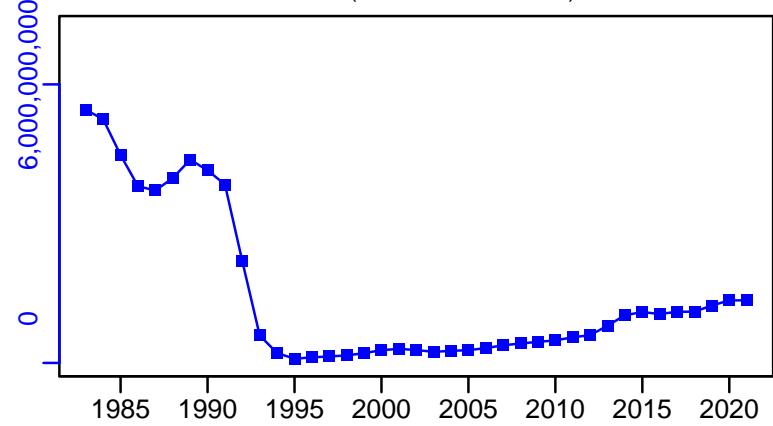
TB-MT (1959–2021–HIVELY)



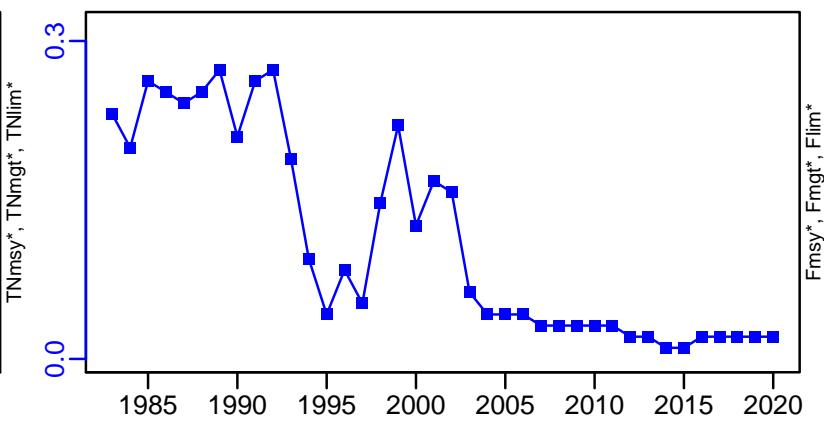
SSB-MT (1959–2021–HIVELY)



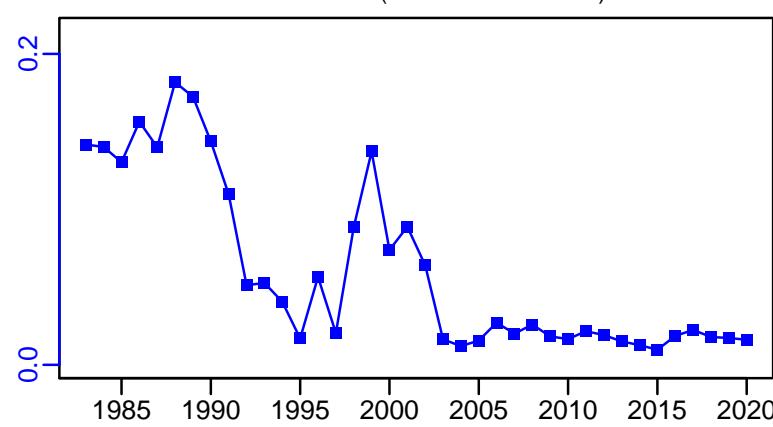
TN-E00 (1959–2021–HIVELY)



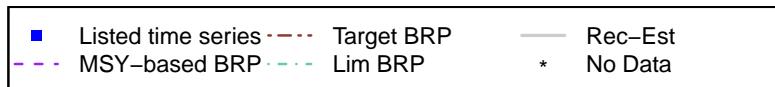
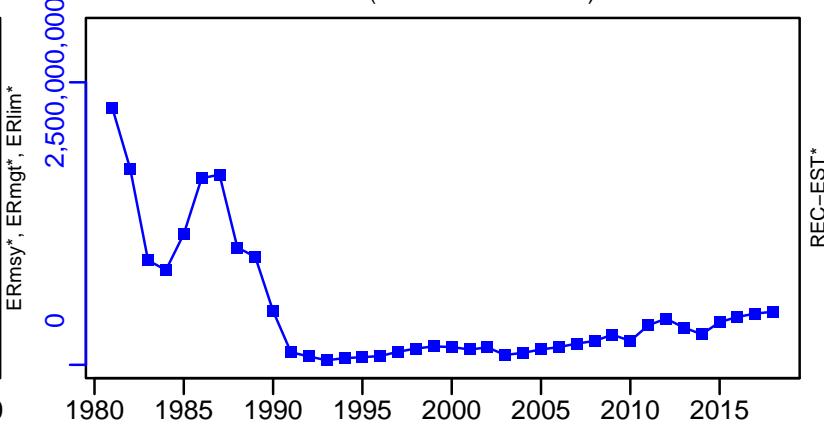
F-1/yr (1959–2021–HIVELY)



ER-calc-ratio (1959–2021–HIVELY)



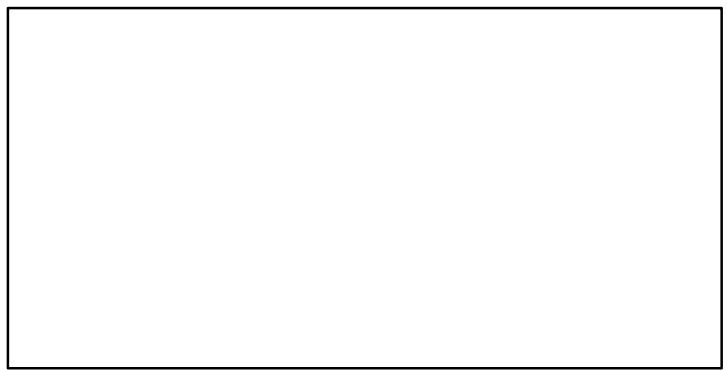
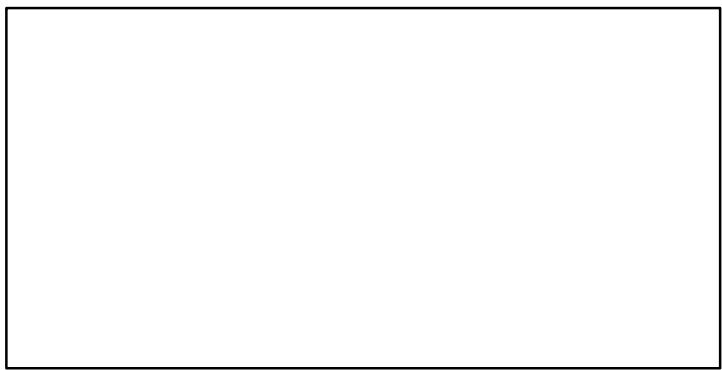
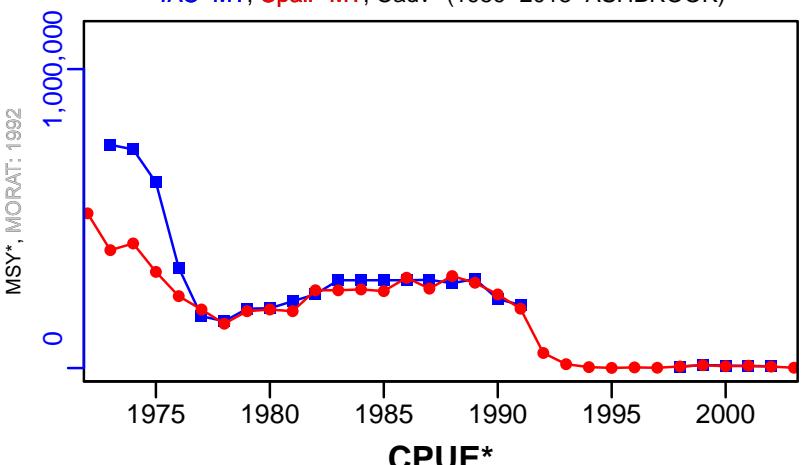
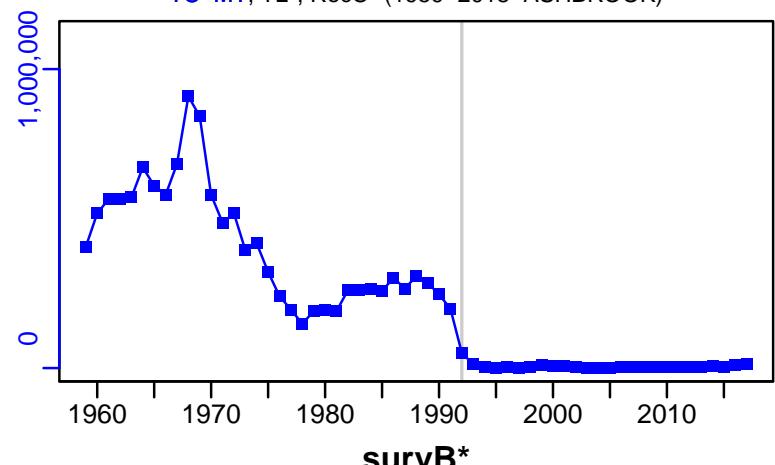
R-E00 (1959–2021–HIVELY)



Atlantic cod Southern Labrador–Eastern Newfoundland [COD2J3KL]

TC-MT, TL\*, RecC\* (1959–2018–ASHBROOK)

TAC-MT, Cpair-MT, Cadv\* (1959–2018–ASHBROOK)



EFFORT\*



CdivMSY\*



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

## Atlantic cod Flemish Cap [COD3M]

<b>Metadata</b>	
<b>Scientific Name</b>	Gadus morhua
<b>Current Assess ID</b>	NAFO-SC-COD3M-1960-2012-CHING
<b>Area</b>	Flemish Cap
<b>Management Authority</b>	Northwest Atlantic Fisheries Organization
<b>Assessor</b>	NAFO Scientific Council
<b>Asmts in RAM</b>	2012

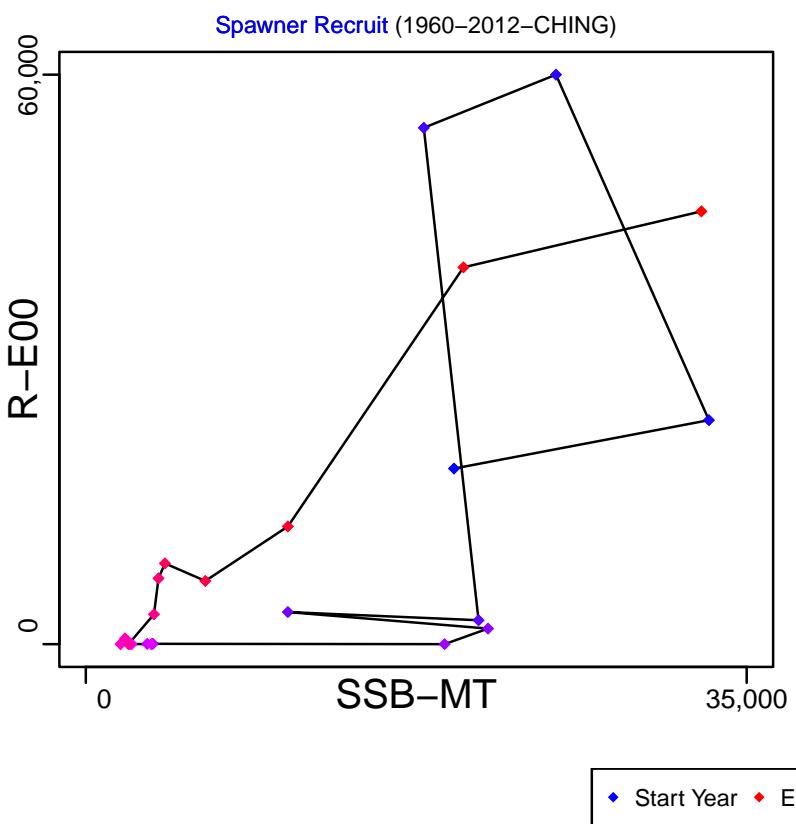
<b>Reference Points</b>			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>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

<b>Time Series</b>						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2012	58,800	-	-	
<b>SSB</b>	SSB-MT	2012	36,100	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2012	45,600	-	-	
<b>F</b>	F-1/yr	2012	0.327	-	-	
<b>ER</b>	ER-ratio	2012	0.236	-	-	
<b>TC</b>	TC-MT	2012	13,900			
<b>TL</b>	-	-	-			
<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>	-	-	-			

Atlantic cod Flemish Cap [COD3M]

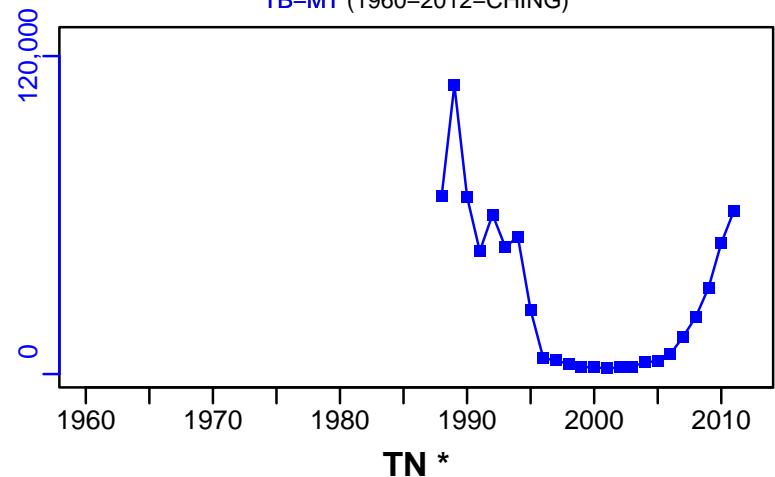
Kobe MSY\*

Kobe MGT\*

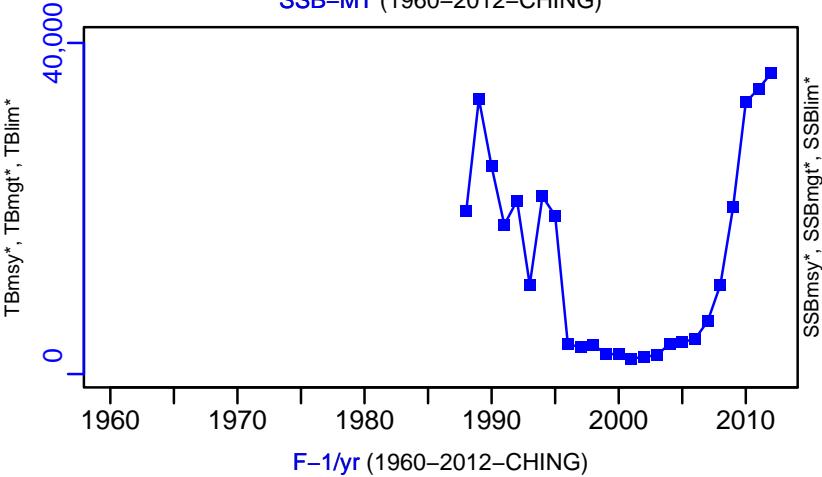


### Atlantic cod Flemish Cap [COD3M]

TB-MT (1960–2012-CHING)



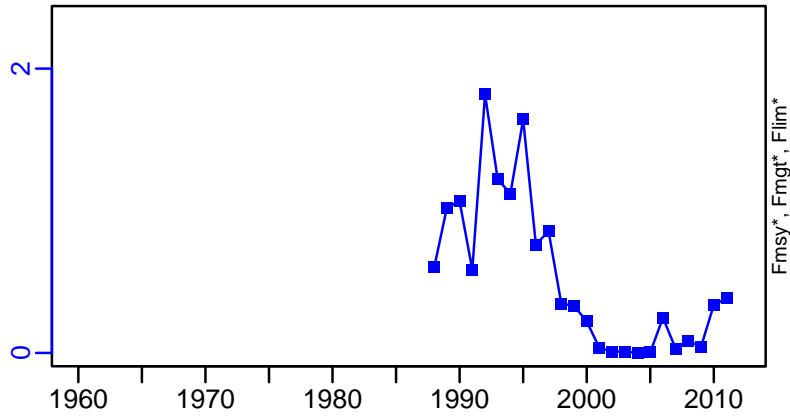
SSB-MT (1960–2012-CHING)



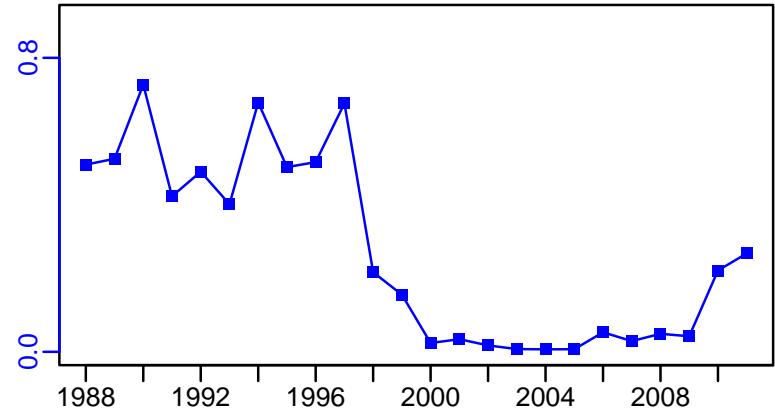
TN \*



F-1/yr (1960–2012-CHING)

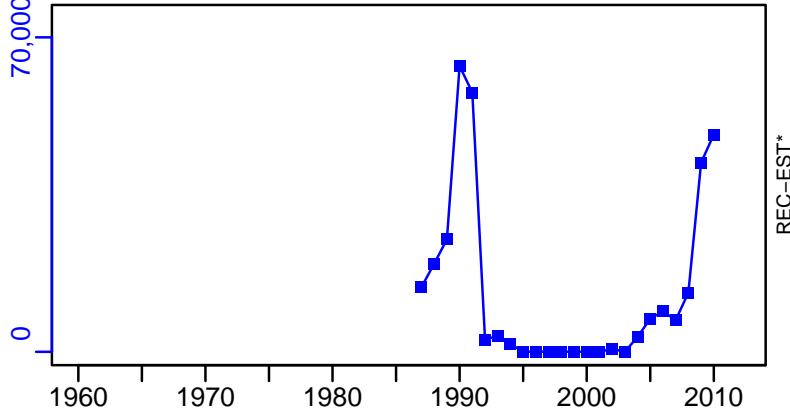


ER-ratio (1960–2012-CHING)

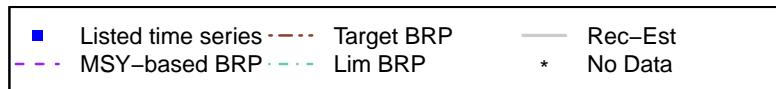


ERmsy\*, ERmgt\*, ERlim\*

R-E00 (1960–2012-CHING)



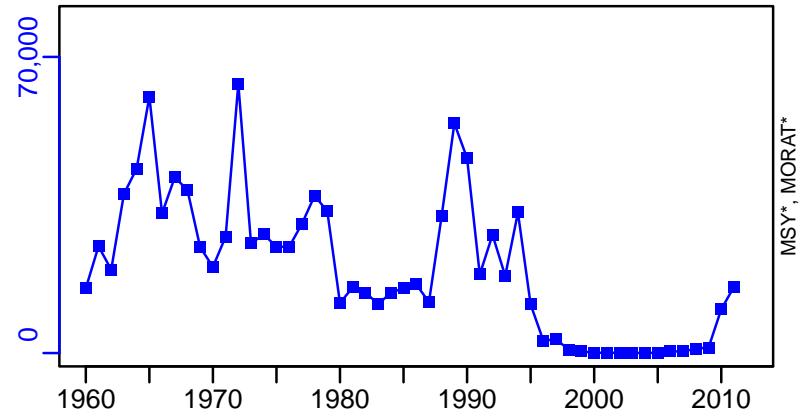
REC-EST\*



Atlantic cod Flemish Cap [COD3M]

TC-MT, TL\*, RecC\* (1960–2012–CHING)

TAC\*, Cpair\*, Cadv\*



MSY\*, MORAT\*

survB\*

CPUE\*

EFFORT\*

CdivMSY\*

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

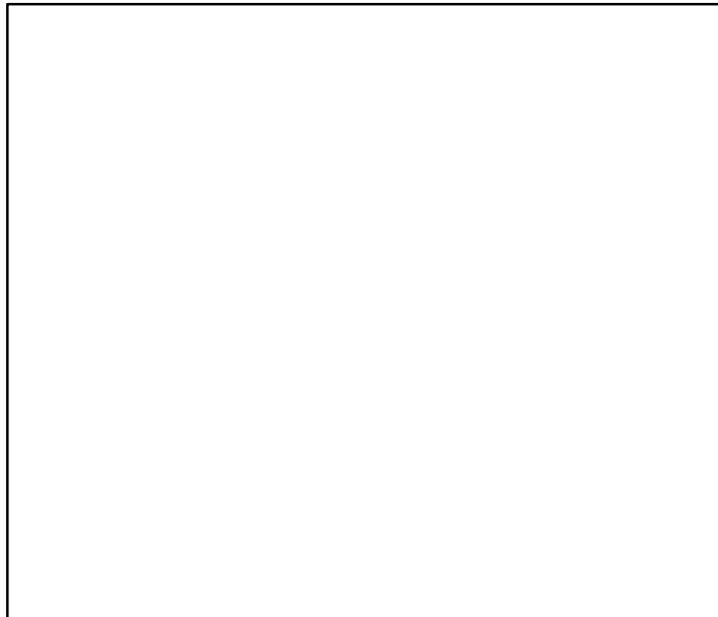
## Atlantic cod Southern Grand Banks [COD3NO]

<b>Metadata</b>	
<b>Scientific Name</b>	Gadus morhua
<b>Current Assess ID</b>	NAFO-SC-COD3NO-1953-2011-CHING
<b>Area</b>	Southern Grand Banks
<b>Management Authority</b>	Northwest Atlantic Fisheries Organization
<b>Assessor</b>	NAFO Scientific Council
<b>Asmts in RAM</b>	2011

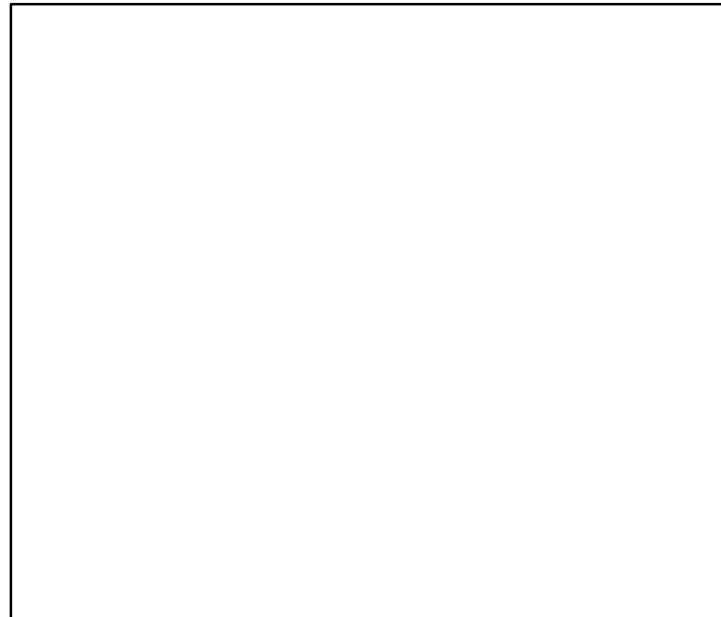
<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERrmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<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	2011	7570	-	-	
<b>SSB</b>	-	-	-	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	-	-	-	-	-	
<b>F</b>	-	-	-	-	-	
<b>ER</b>	ER-ratio	2011	0.108	-	-	
<b>TC</b>	TC-MT	2011	819			
<b>TL</b>	-	-	-			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	-	-	-			
<b>ER/ERrmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

**Kobe MSY\***



**Kobe MGT\***



**Spawner Recruit\***



**Production\***

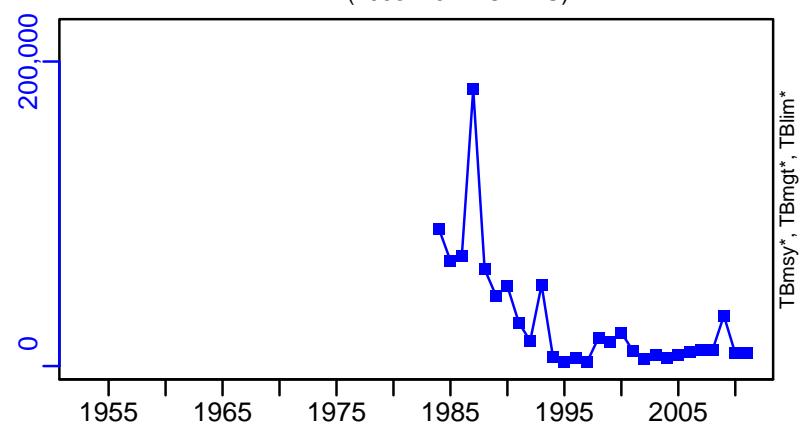


◆ Start Year ♦ End Year \* No Data

### Atlantic cod Southern Grand Banks [COD3NO]

TB-MT (1953–2011-CHING)

**SSB\***



**TN \***

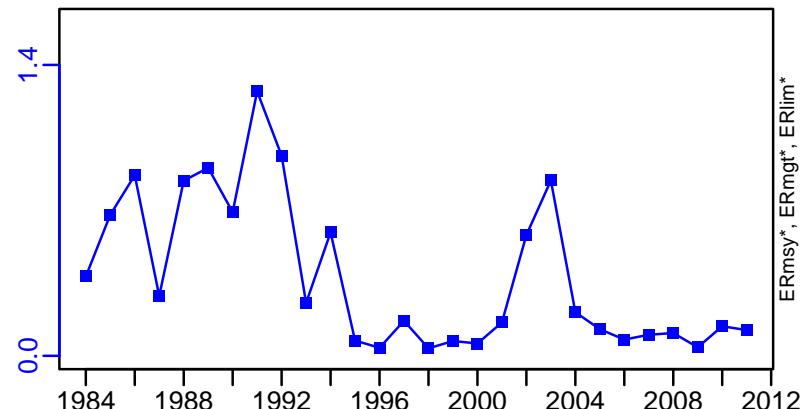


**F\***



ER-ratio (1953–2011-CHING)

**Recruits\***

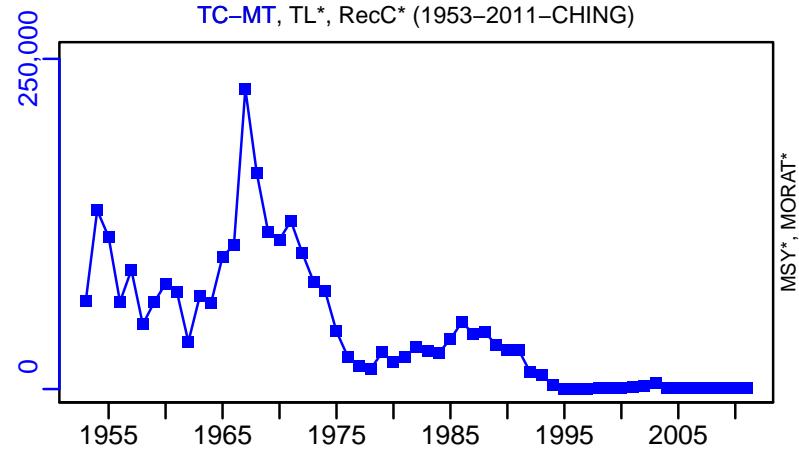


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| - - MSY-based BRP    | ·· Lim BRP   | * No Data |

Atlantic cod Southern Grand Banks [COD3NO]

TC-MT, TL\*, RecC\* (1953–2011-CHING)

TAC\*, Cpair\*, Cadv\*



survB\*

CPUE\*

EFFORT\*

CdivMSY\*

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

## Atlantic cod Northern Gulf of St. Lawrence [COD3Pn4RS]

<b>Metadata</b>	
<b>Scientific Name</b>	Gadus morhua
<b>Current Assess ID</b>	DFO-QUE-COD3Pn4RS-1964-2019-ASHBROOK
<b>Area</b>	Northern Gulf of St. Lawrence
<b>Management Authority</b>	Department of Fisheries and Oceans, Canada national management
<b>Assessor</b>	Department of Fisheries and Oceans - Quebec Region
<b>Asmts in RAM</b>	2015, 2012, 2019

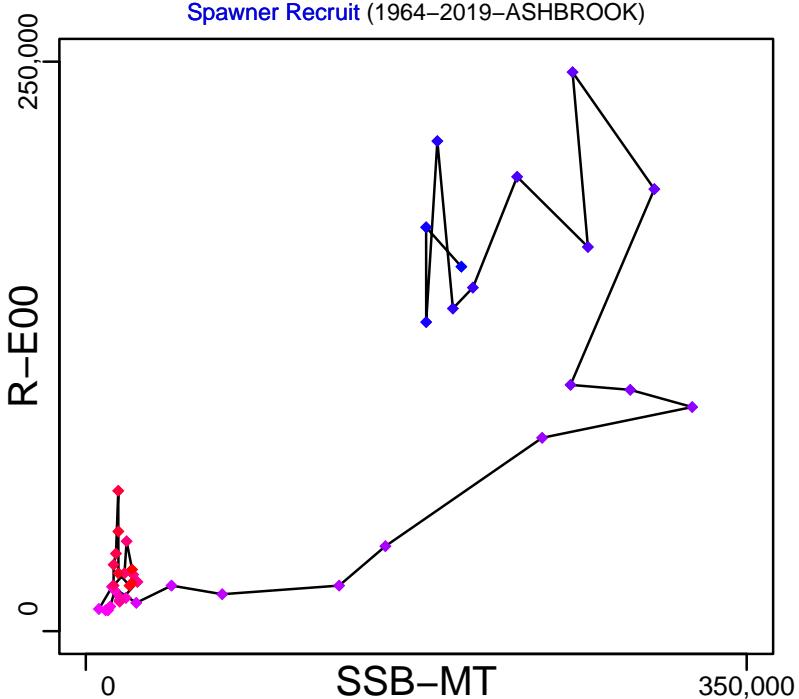
<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2019	188,000
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	M-1/yr	2019	0.2
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2019	116,000
<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	2019	11,467	-	3+	
<b>SSB</b>	SSB-MT	2019	12,921	-	3+	
<b>TN</b>	TN-E00	2015	$1.44 \times 10^8$	-	3+	
<b>R</b>	R-E00	2019	27,027	-	3	
<b>F</b>	F-1/yr	2015	0.09	-	7 to 9	
<b>ER</b>	ER-ratio	2019	0.179	-	9-Jul	
<b>TC</b>	-	-	-			
<b>TL</b>	TL-MT	2019	2496			
<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	2019	0.069			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

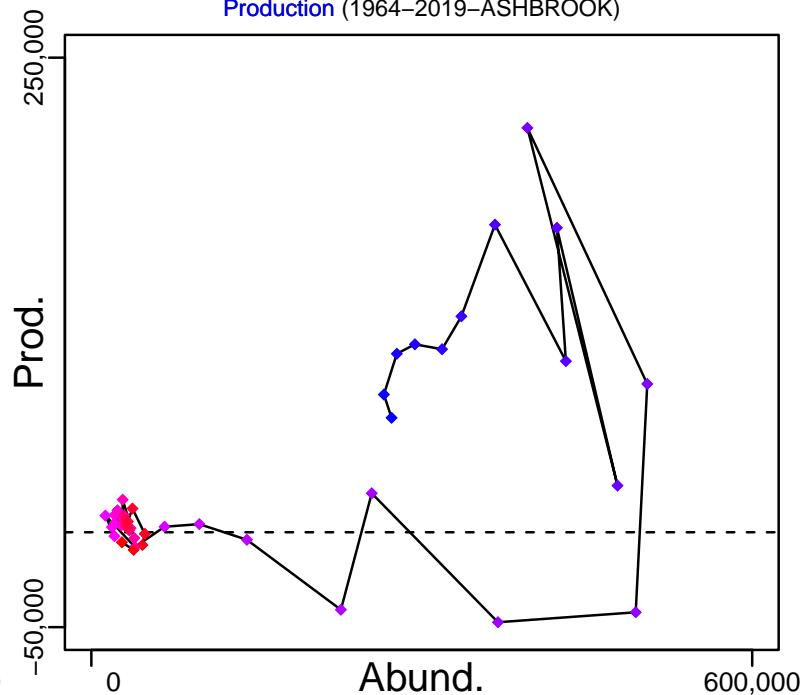
**Kobe MSY\***

**Kobe MGT\***

Spawner Recruit (1964–2019–ASHBROOK)



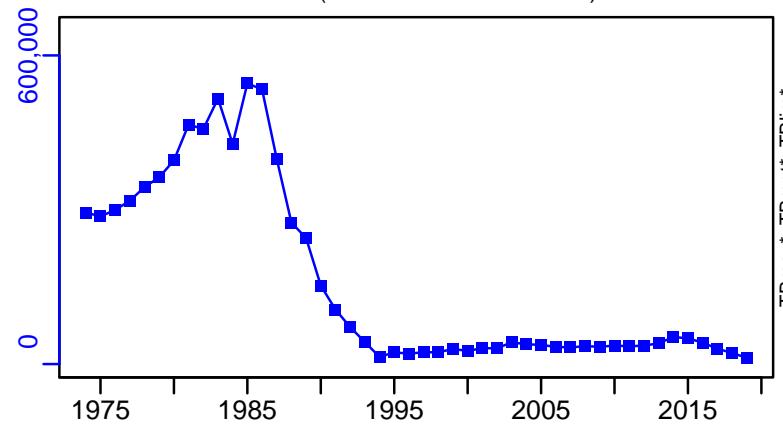
Production (1964–2019–ASHBROOK)



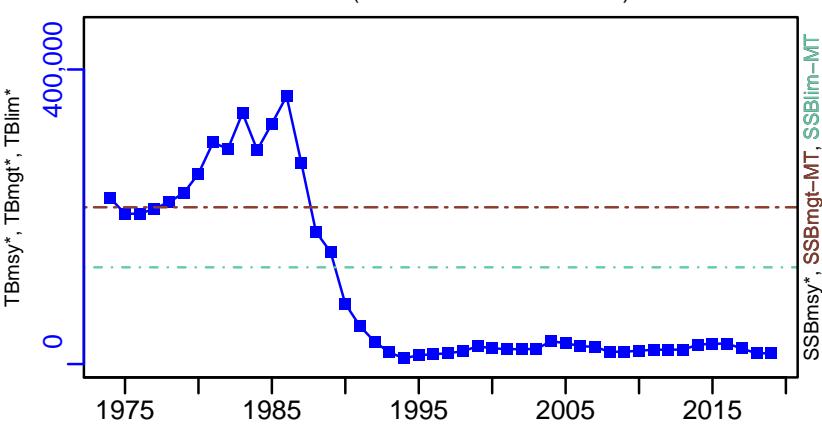
◆ Start Year   ◆ End Year   \* No Data

### Atlantic cod Northern Gulf of St. Lawrence [COD3Pn4RS]

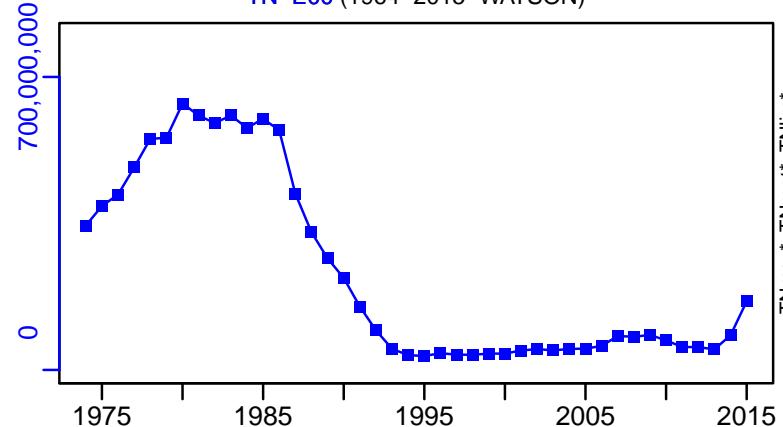
TB-MT (1964–2019–ASHBROOK)



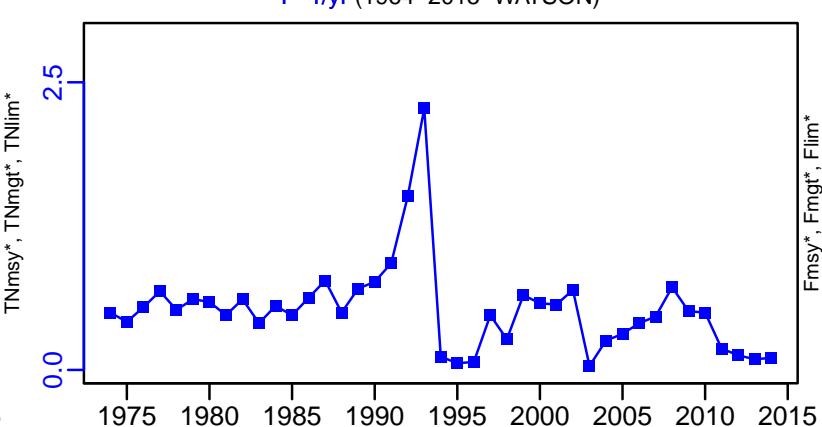
SSB-MT (1964–2019–ASHBROOK)



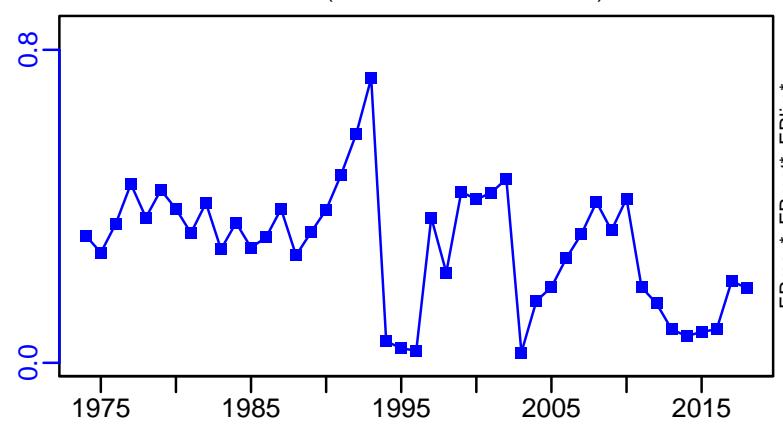
TN-E00 (1964–2015–WATSON)



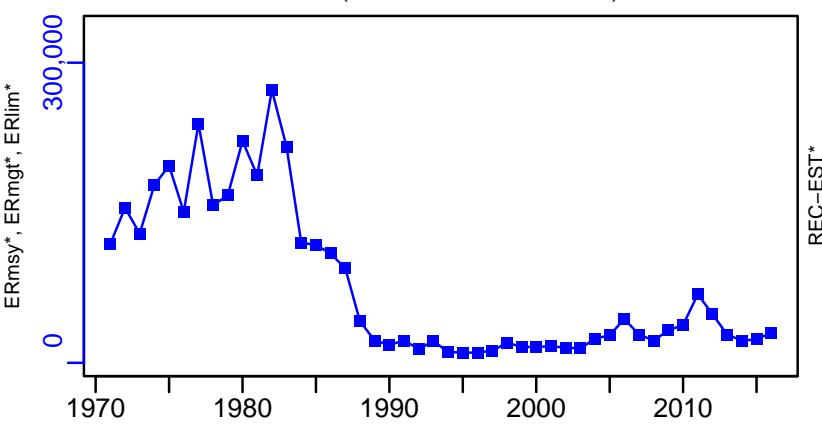
F-1/yr (1964–2015–WATSON)



ER-ratio (1964–2019–ASHBROOK)



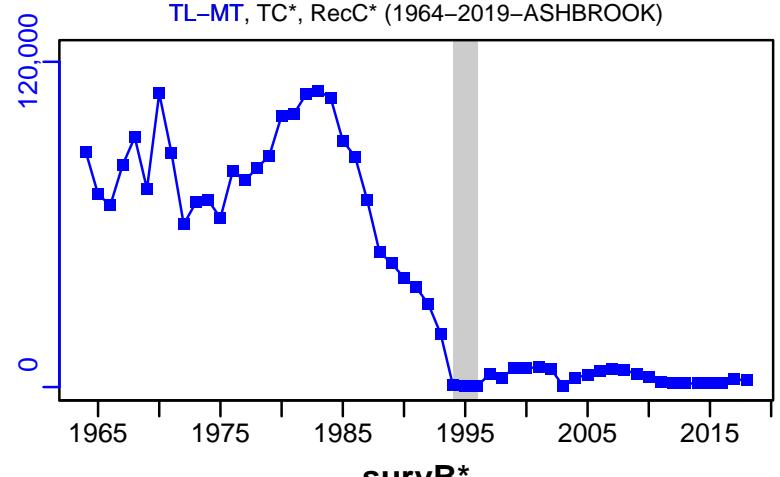
R-E00 (1964–2019–ASHBROOK)



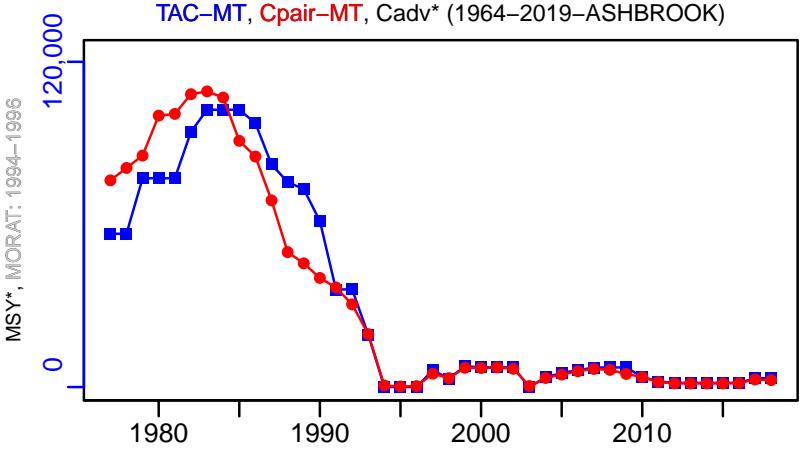
■ Listed time series	— Target BRP	— Rec-Est
— MSY-based BRP	--- Lim BRP	* No Data

Atlantic cod Northern Gulf of St. Lawrence [COD3Pn4RS]

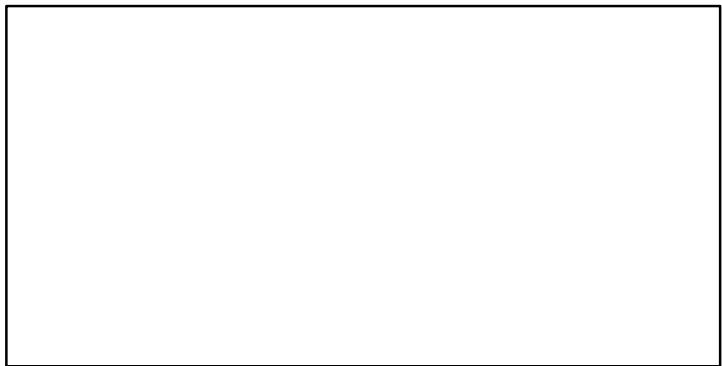
TL-MT, TC\*, RecC\* (1964–2019–ASHBROOK)



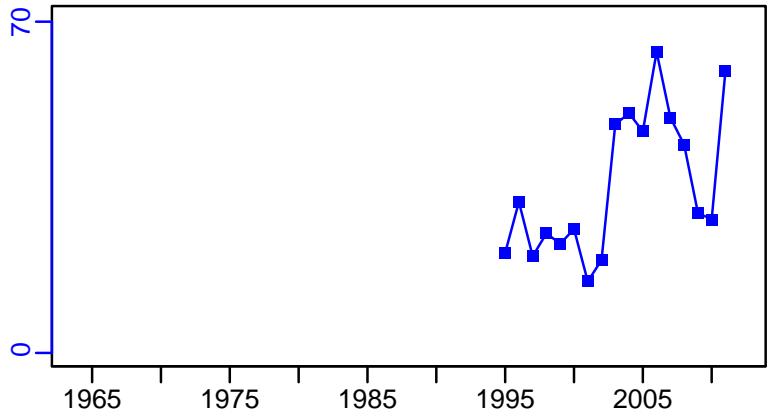
TAC-MT, Cpair-MT, Cadv\* (1964–2019–ASHBROOK)



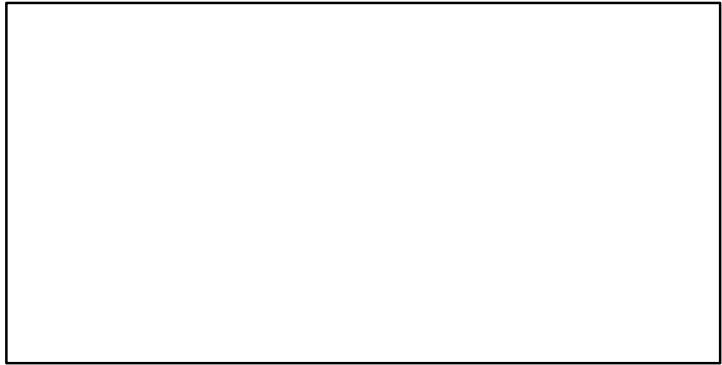
survB\*



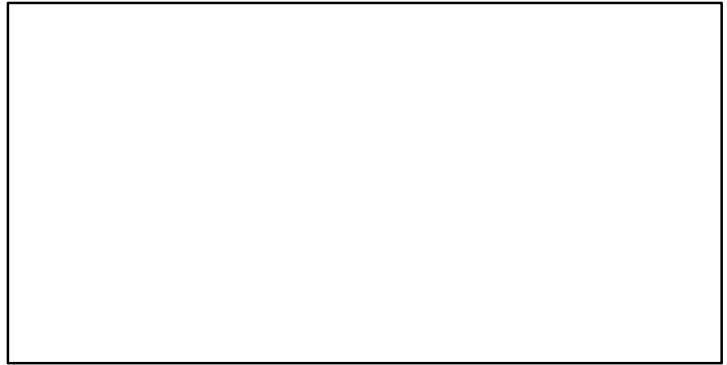
gillnetCPUE-E00pertow (1964–2012–CHING)



EFFORT\*



CdivMSY\*



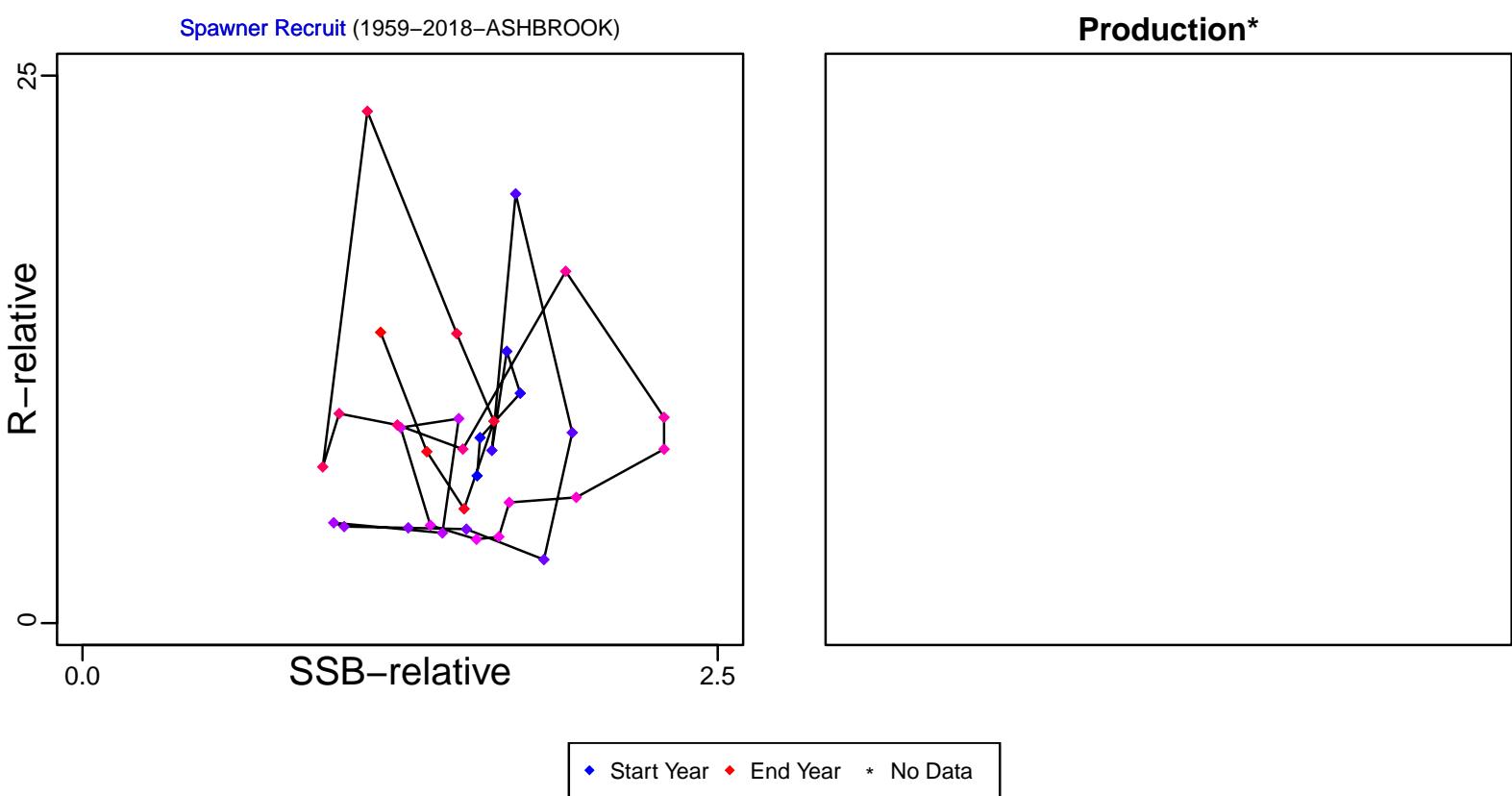
- |                          |                          |           |
|--------------------------|--------------------------|-----------|
| ■ 1st listed time series | ▲ 3rd listed time series | — MORAT   |
| ● 2nd listed time series | - - - MSY                | * No Data |

## Atlantic cod St. Pierre Bank [COD3Ps]

<b>Metadata</b>	
<b>Scientific Name</b>	Gadus morhua
<b>Current Assess ID</b>	DFO-NFLD-COD3Ps-1959-2018-ASHBROOK
<b>Area</b>	St. Pierre Bank
<b>Management Authority</b>	Department of Fisheries and Oceans, Canada national management
<b>Assessor</b>	Department of Fisheries and Oceans - Newfoundland Region
<b>Asmts in RAM</b>	2014, 2011, 2018

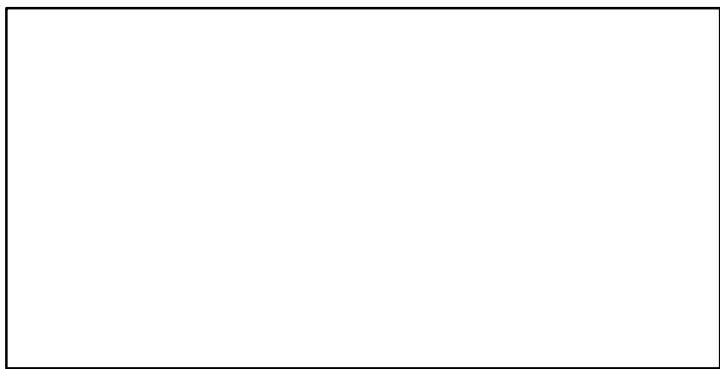
<b>Reference Points</b>			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>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

<b>Time Series</b>						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	-	-	-	-	-	
<b>SSB</b>	SSB-relative	2018	1.489	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-relative	2018	13	-	1	
<b>F</b>	-	-	-	-	-	
<b>ER</b>	ER-ratio	2011	0.141	-	-	
<b>TC</b>	TC-MT	2014	4190			
<b>TL</b>	TL-MT	2018	6866			
<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>	-	-	-			

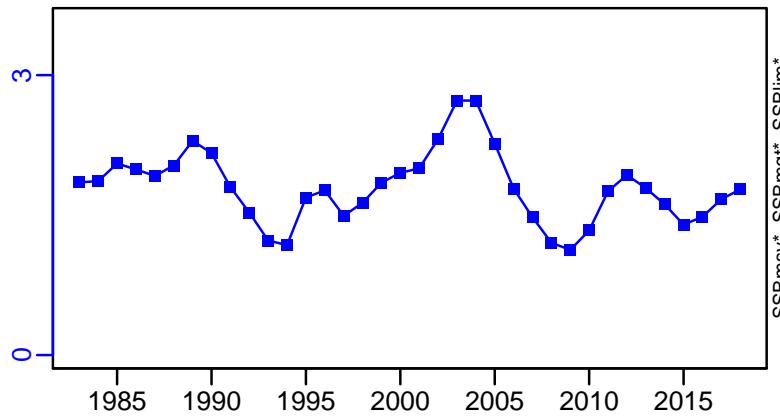
**Kobe MSY\*****Kobe MGT\***

Atlantic cod St. Pierre Bank [COD3Ps]

**TB\***

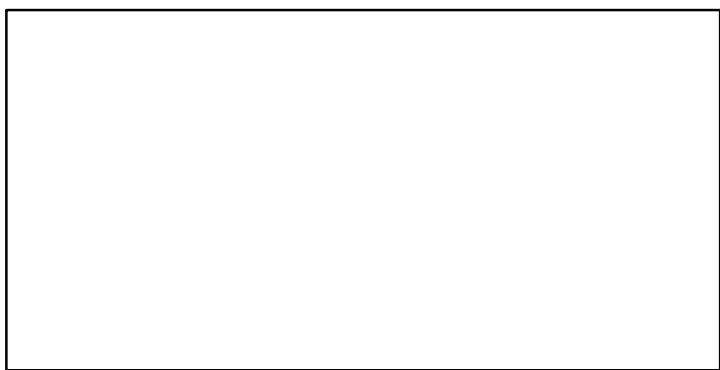


SSB-relative (1959–2018–ASHBROOK)

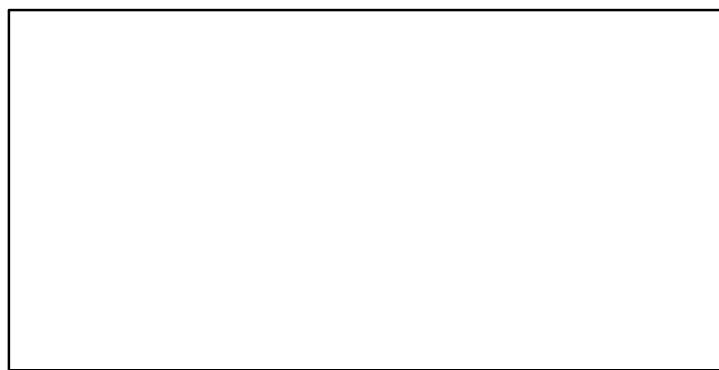


SSB<sub>mgt</sub>\* , SSB<sub>lim</sub>\*

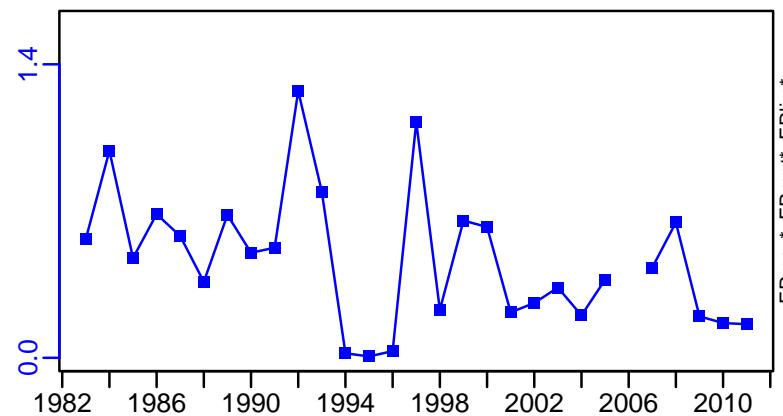
**TN \***



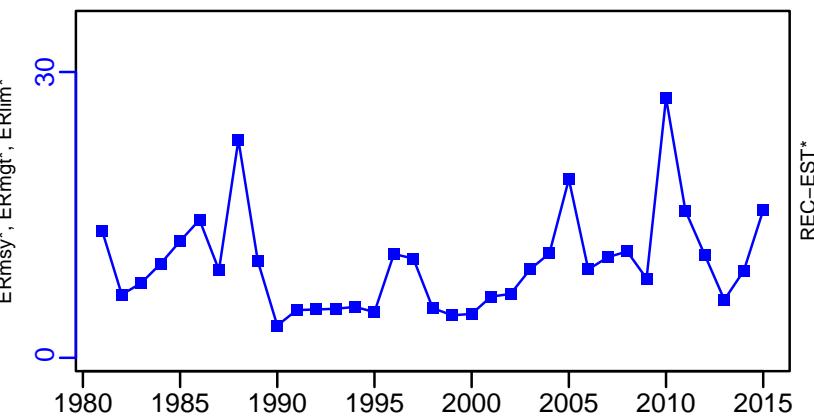
**F\***



ER-ratio (1959–2011–CHING)



R-relative (1959–2018–ASHBROOK)

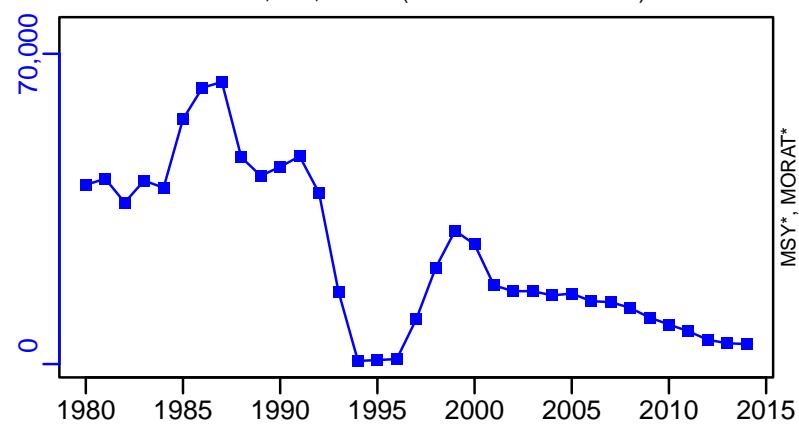


REC-EST\*

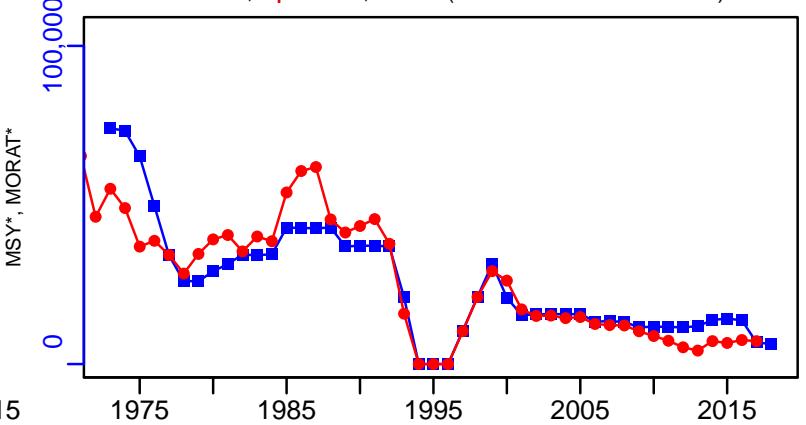
- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| - - MSY-based BRP    | ·· Lim BRP   | * No Data |

### Atlantic cod St. Pierre Bank [COD3Ps]

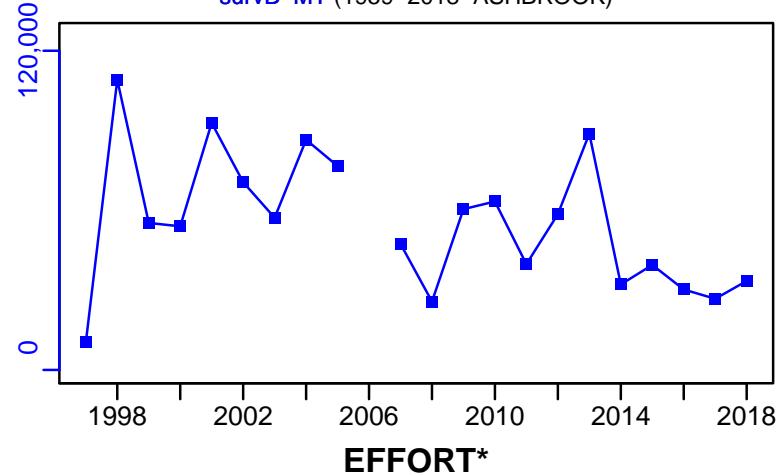
TC-MT, TL\*, RecC\* (1980–2014–WATSON)



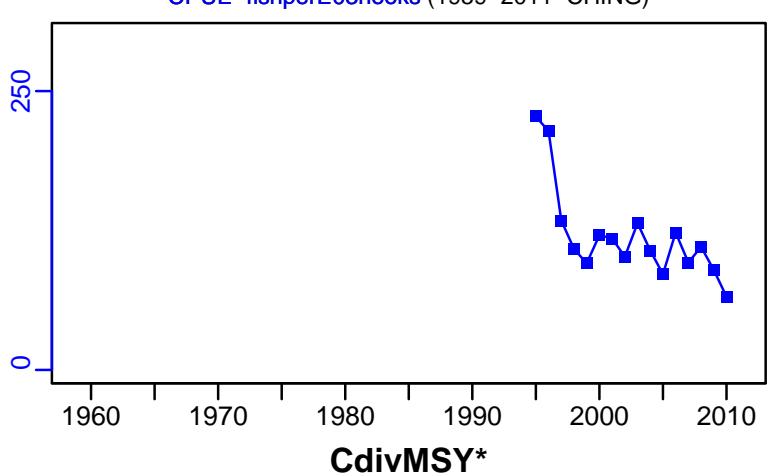
TAC-MT, Cpair-MT, Cadv\* (1959–2018–ASHBROOK)



survB-MT (1959–2018–ASHBROOK)



CPUE-fishperE03hooks (1959–2011–CHING)



EFFORT\*

CdivMSY\*

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

## Atlantic cod Southern Gulf of St. Lawrence [COD4TVn]

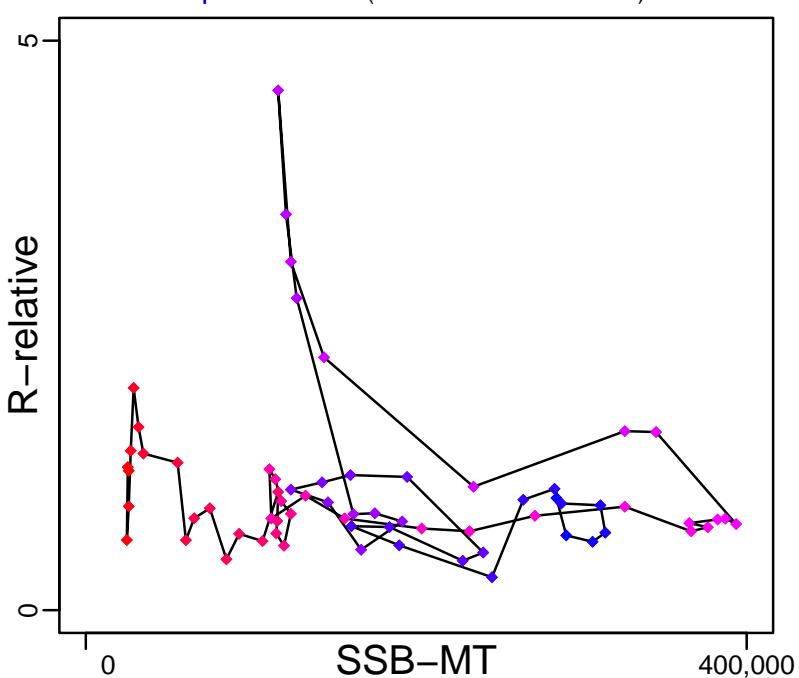
<b>Metadata</b>	
<b>Scientific Name</b>	Gadus morhua
<b>Current Assess ID</b>	DFO-SG-COD4TVn-1917-2018-ASHBROOK
<b>Area</b>	Southern Gulf of St. Lawrence
<b>Management Authority</b>	Department of Fisheries and Oceans, Canada national management
<b>Assessor</b>	Department of Fisheries and Oceans - Southern Gulf Region
<b>Asmts in RAM</b>	2015, 2018, 2011

<b>Reference Points</b>			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERrmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2018	80,000
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

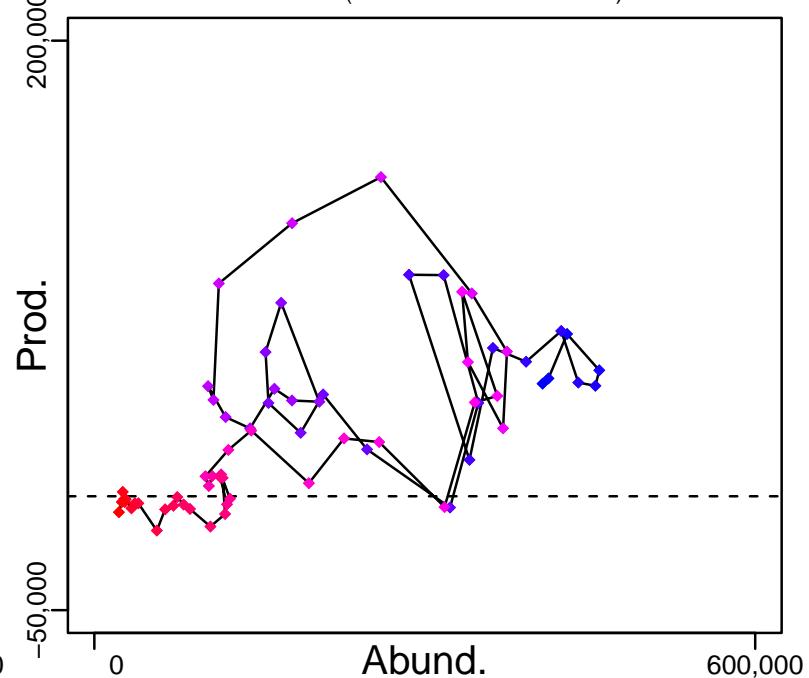
<b>Time Series</b>						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2018	15,236	-	5+	
<b>SSB</b>	SSB-MT	2018	18,322	-	-	
<b>TN</b>	TN-E00	2018	17,877,070	-	5+	
<b>R</b>	R-relative	2018	1.224	-	2	
<b>F</b>	F-1/yr	2018	0.004	-	8-May	
<b>ER</b>	ER-calc-ratio	2018	0.004	-	-	
<b>TC</b>	TC-MT	2018	59			
<b>TL</b>	TL-MT	2015	114			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	-	-	-			
<b>ER/ERrmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

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

Spawner Recruit (1917–2018–ASHBROOK)



Production (1917–2018–ASHBROOK)

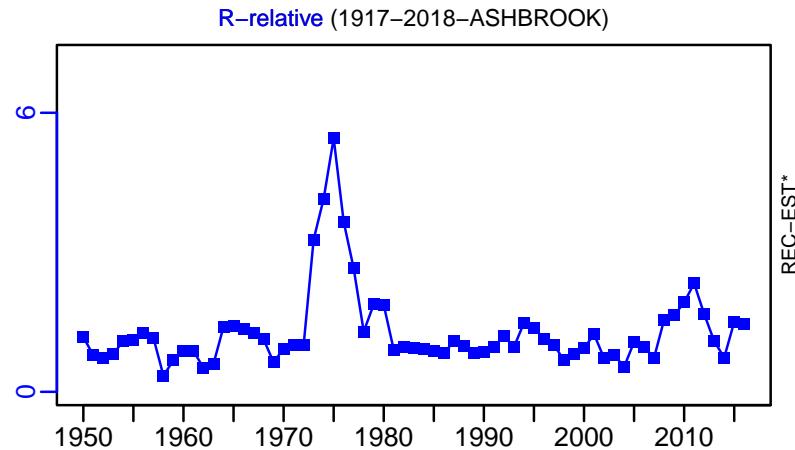
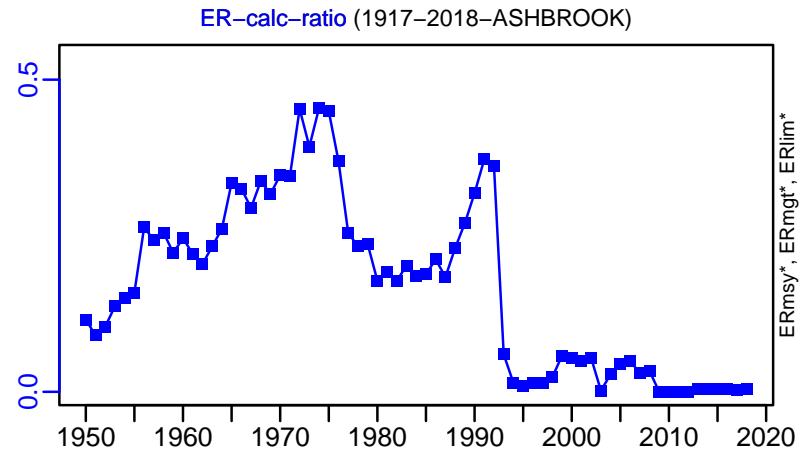
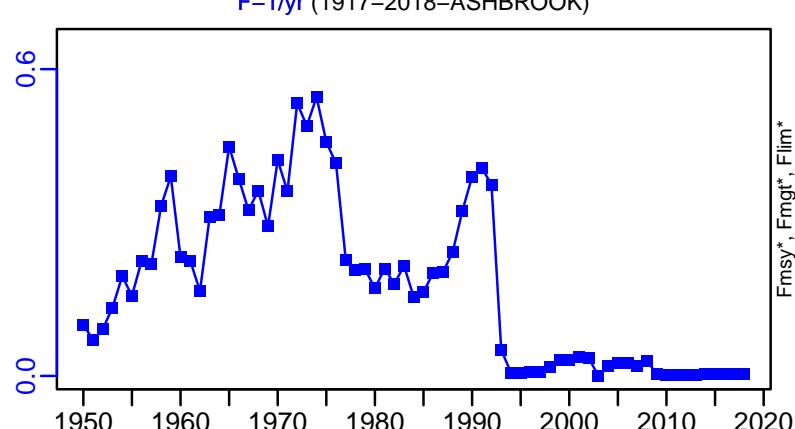
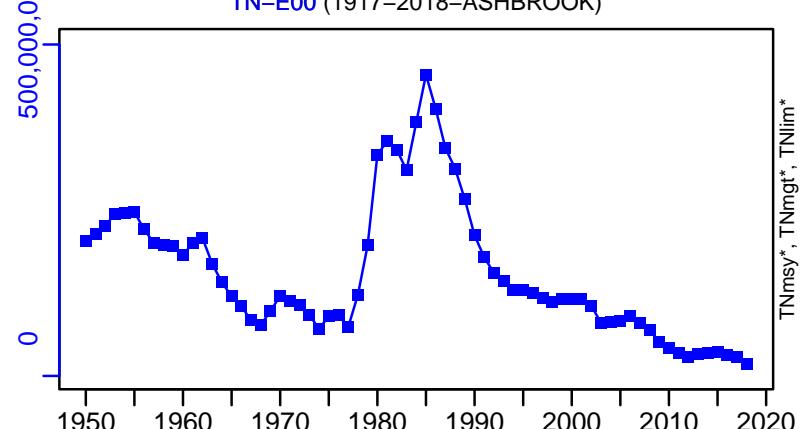
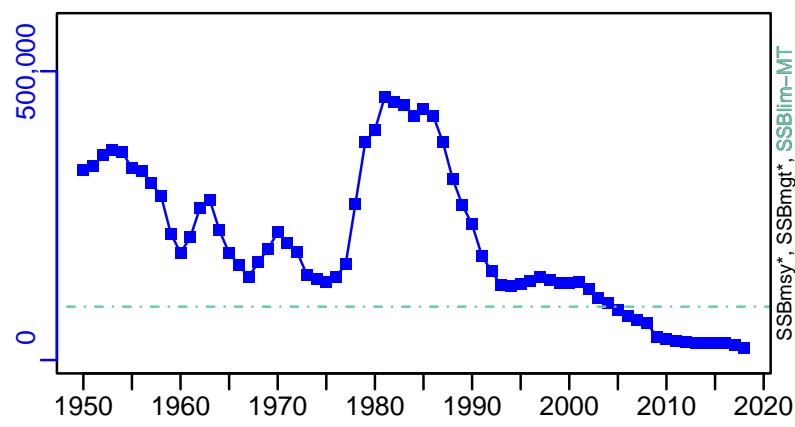
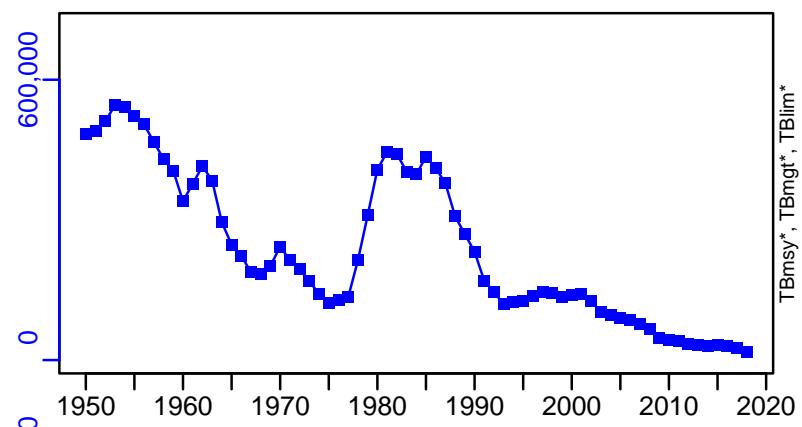


◆ Start Year	◆ End Year	* No Data
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Atlantic cod Southern Gulf of St. Lawrence [COD4TVn]

TB-MT (1917–2018–ASHBROOK)

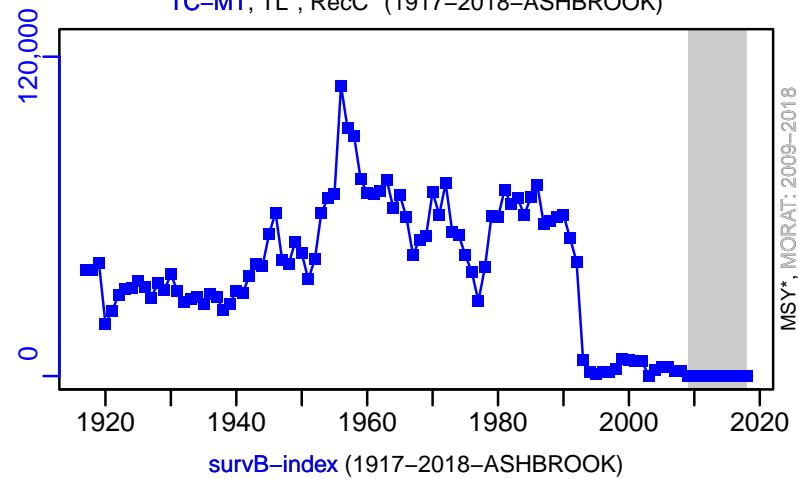
SSB-MT (1917–2018–ASHBROOK)



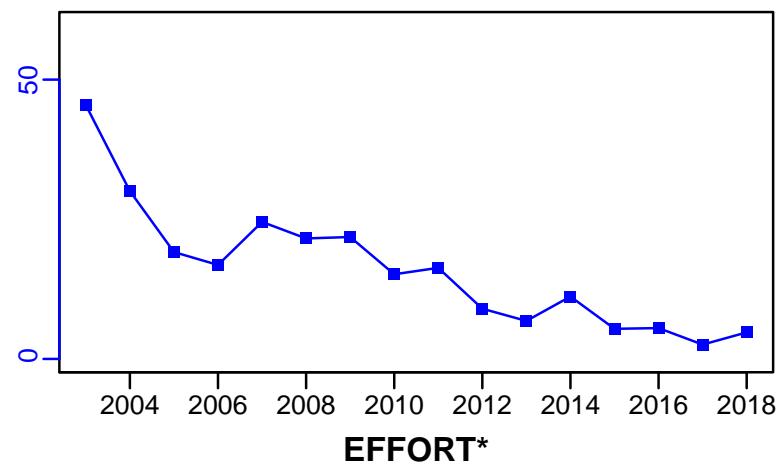
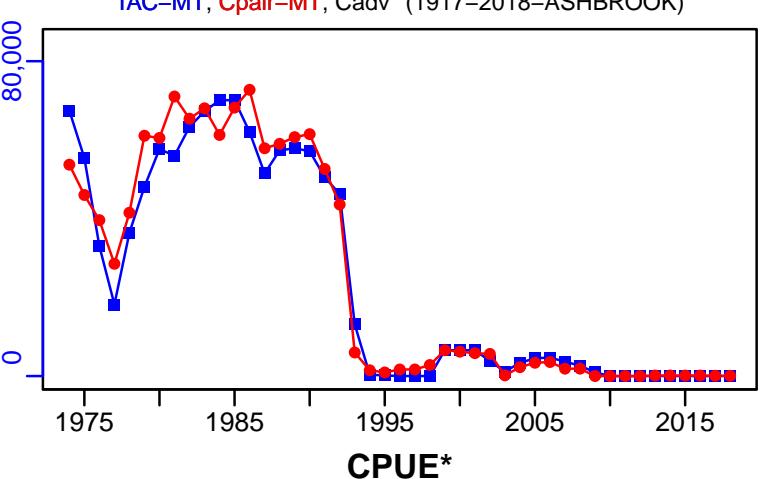
■ Listed time series	— Target BRP	— Rec-Est
— MSY-based BRP	- - Lim BRP	* No Data

### Atlantic cod Southern Gulf of St. Lawrence [COD4TVn]

TC-MT, TL\*, RecC\* (1917–2018–ASHBROOK)



TAC-MT, Cpair-MT, Cadv\* (1917–2018–ASHBROOK)



CdivMSY\*

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

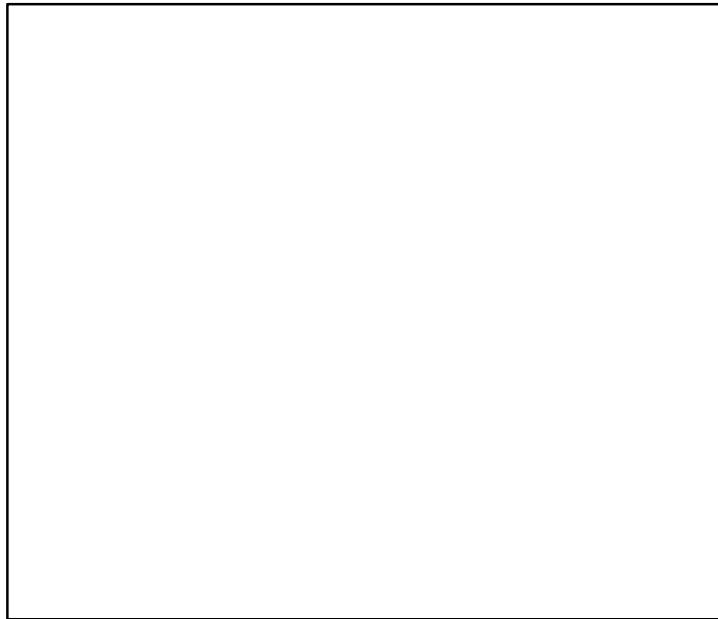
## Atlantic cod Eastern Scotian Shelf [COD4VsW]

<b>Metadata</b>	
<b>Scientific Name</b>	Gadus morhua
<b>Current Assess ID</b>	DFO-MAR-COD4VsW-1958-2002-PREFONTAINE
<b>Area</b>	Eastern Scotian Shelf
<b>Management Authority</b>	Department of Fisheries and Oceans, Canada national management
<b>Assessor</b>	Department of Fisheries and Oceans - Maritimes Region
<b>Asmts in RAM</b>	2002

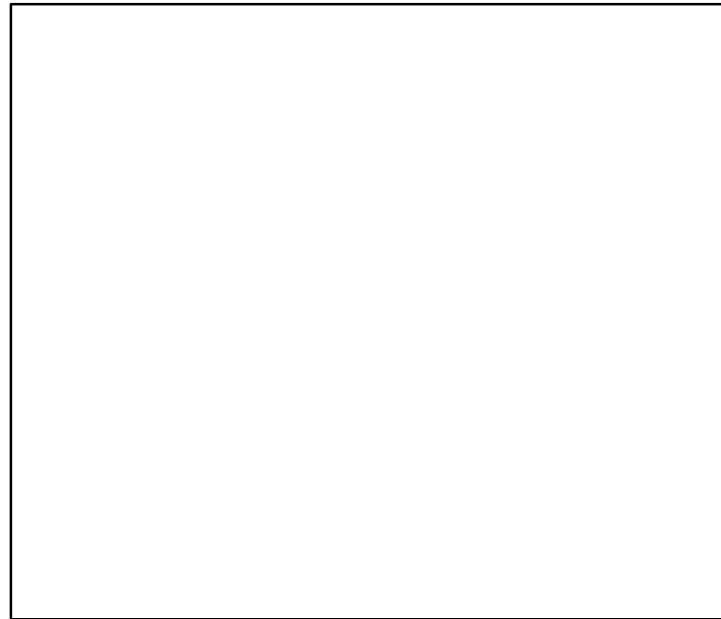
<b>Reference Points</b>			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>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

<b>Time Series</b>						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	-	-	-	-	-	
<b>SSB</b>	SSB-MT	2002	4720	-	4+	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	-	-	-	-	-	
<b>F</b>	-	-	-	-	-	
<b>ER</b>	ER-ratio	2002	0.008	-	-	
<b>TC</b>	TC-MT	2002	83			
<b>TL</b>	-	-	-			
<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\***



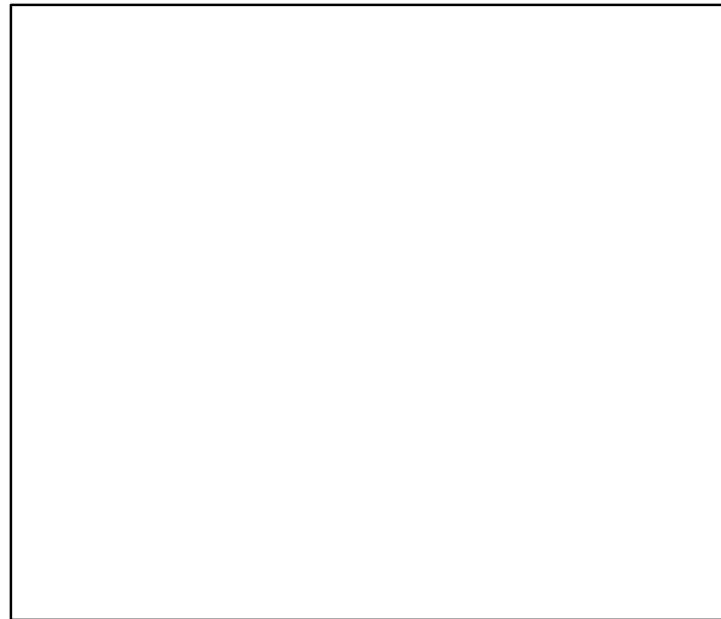
**Kobe MGT\***



**Spawner Recruit\***



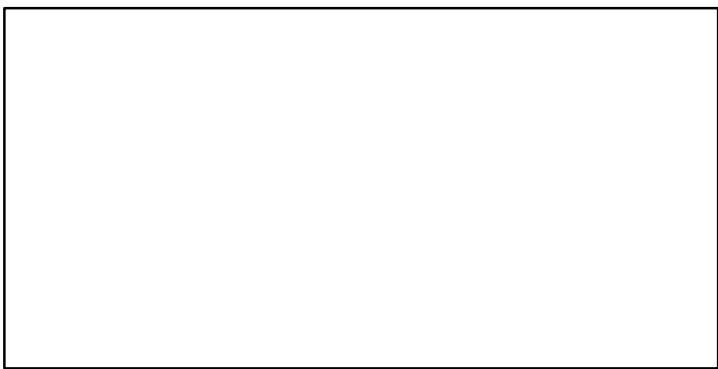
**Production\***



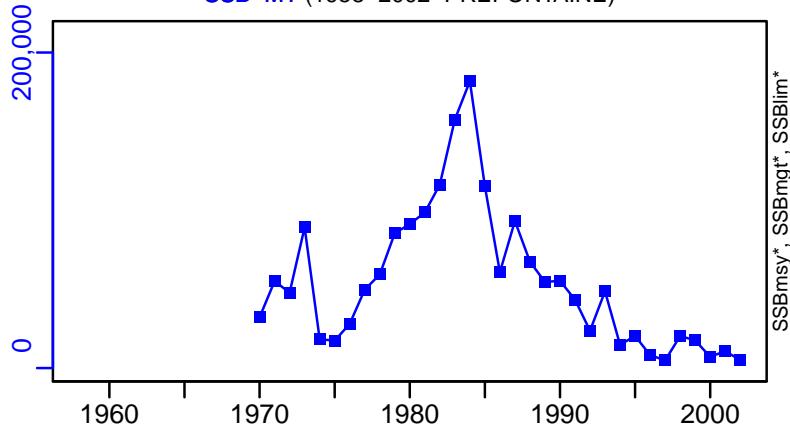
◆ Start Year ♦ End Year \* No Data

Atlantic cod Eastern Scotian Shelf [COD4VsW]

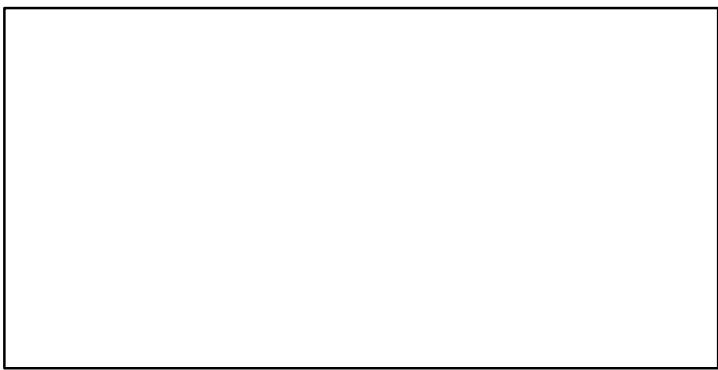
**TB\***



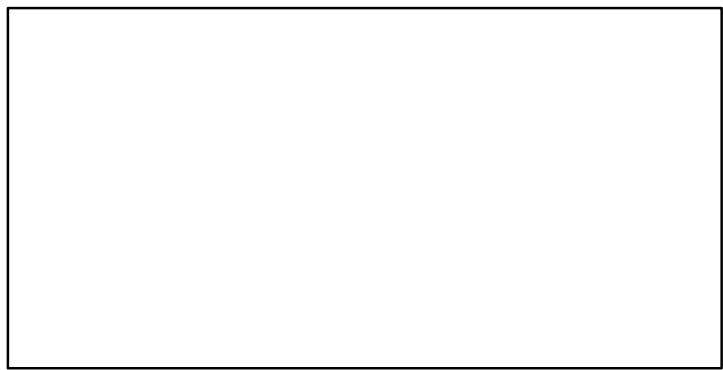
**SSB-MT (1958–2002–PREFONTAINE)**



**TN \***

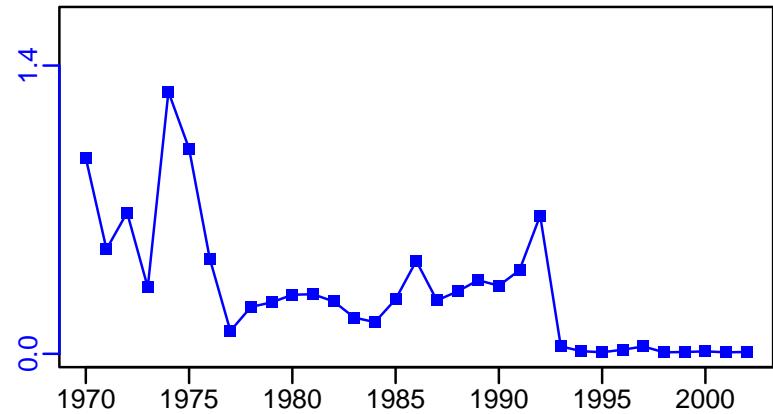


**F\***

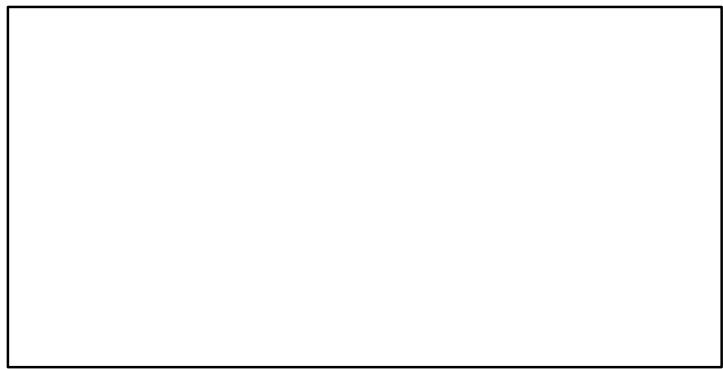


**ER-ratio (1958–2002–PREFONTAINE)**

ERmsy\*, ERmgt\*, ERlim\*



**Recruits\***

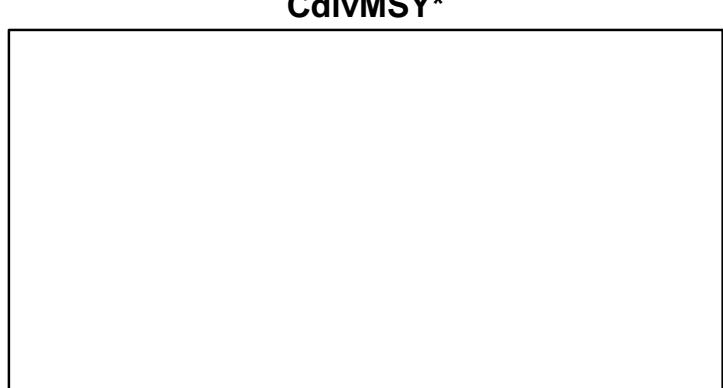
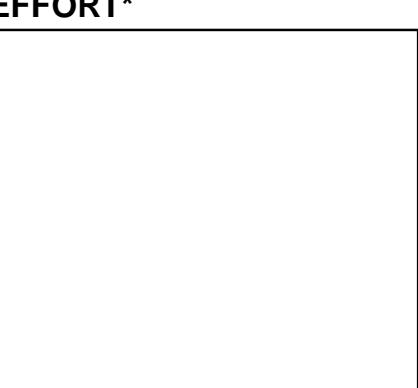
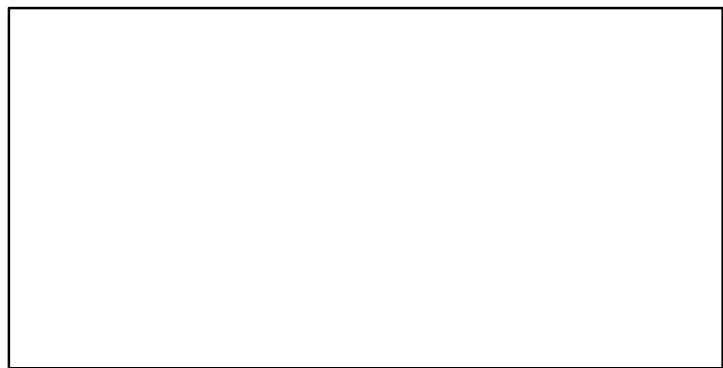
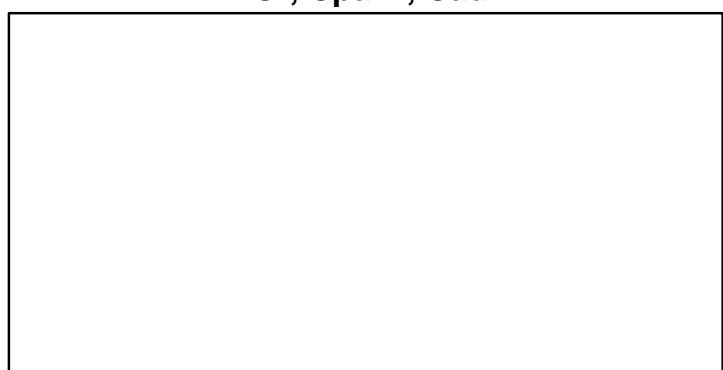
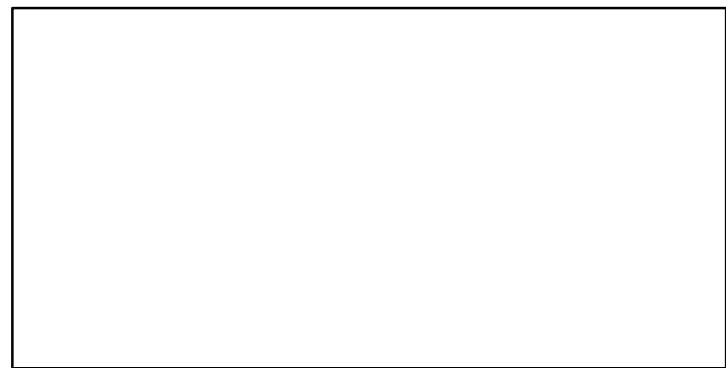
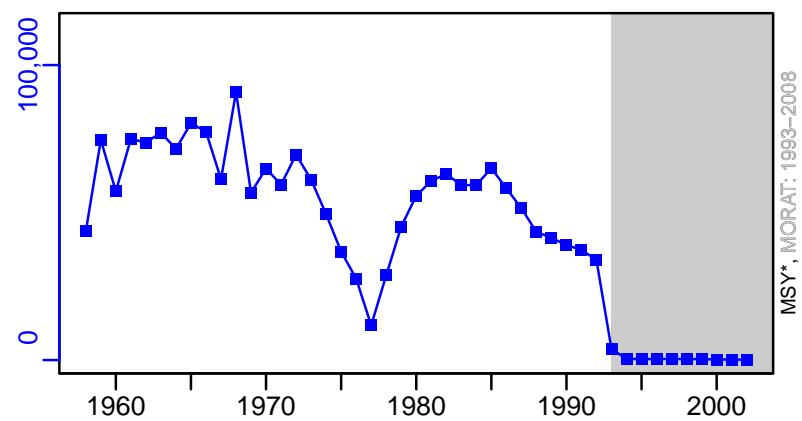


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| — MSY-based BRP      | ··· Lim BRP  | * No Data |

Atlantic cod Eastern Scotian Shelf [COD4VsW]

TC-MT, TL\*, RecC\* (1958–2002–PREFONTAINE)

TAC\*, Cpair\*, Cadv\*



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

## Atlantic cod Western Scotian Shelf, Bay of Fundy and Gulf of Maine [COD4X5Yb]

Metadata	
Scientific Name	Gadus morhua
Current Assess ID	DFO-MAR-COD4X5Yb-1960-2018-ASHBROOK
Area	Western Scotian Shelf, Bay of Fundy and Gulf of Maine
Management Authority	Department of Fisheries and Oceans, Canada national management
Assessor	Department of Fisheries and Oceans - Maritimes Region
Asmts in RAM	2009, 2018

Reference Points			
Type	ID	Asmt Year	Value
TBmsy	-	-	-
SSBmsy	-	-	-
Fmsy	-	-	-
ERmsy	-	-	-
TBmgt	-	-	-
SSBmgt	SSBmgt-MT	2018	48,000
Fmgt	Fmgt-1/yr	2009	0.2
ERmgt	-	-	-
TB0	-	-	-
SSB0	-	-	-
MSY	-	-	-
M	M-1/yr	2018	1.57
TBlim	-	-	-
SSBlim	SSBlim-MT	2018	22,193
Flim	-	-	-
ERlim	-	-	-

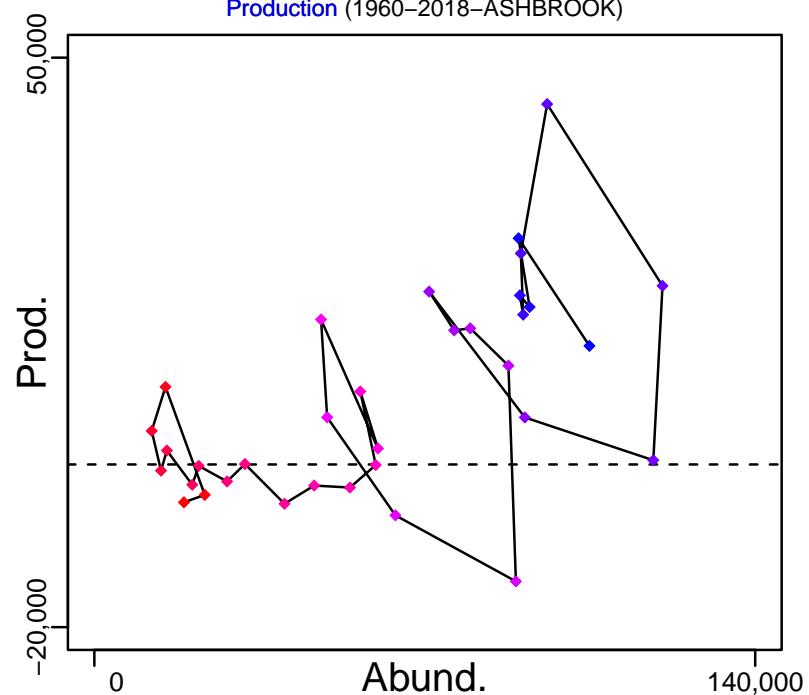
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
TB	TB-MT	2018	13,588	-	1-7+	
SSB	SSB-MT	2018	12,491	-	4+	
TN	TN-E00	2018	8,028,000	-	1-7+	
R	-	-	-	-	-	
F	F-1/yr	2018	0.088	-	7-Apr	
ER	ER-calc-ratio	2018	0.055	-	-	
TC	-	-	-			
TL	TL-MT	2018	746			
TB/TBmsy	-	-	-			
SSB/SSBmsy	-	-	-			
F/Fmsy	-	-	-			
ER/ERmsy	-	-	-			
TB/TBmgt	-	-	-			
SSB/SSBmgt	SSB-MT/SSBmgt-MT	2018	0.26			
F/Fmgt	F-1/yr/Fmgt-1/yr	2009	1.5			
ER/ERmgt	-	-	-			

Kobe MSY\*

Kobe MGT\*

Spawner Recruit\*

Production (1960–2018–ASHBROOK)

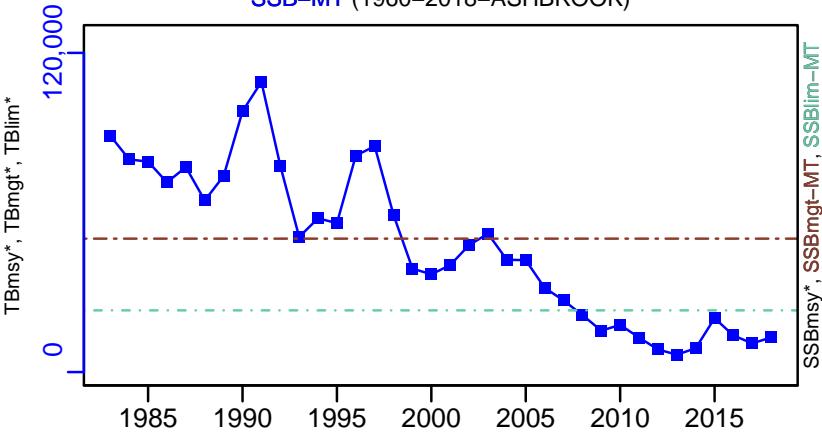
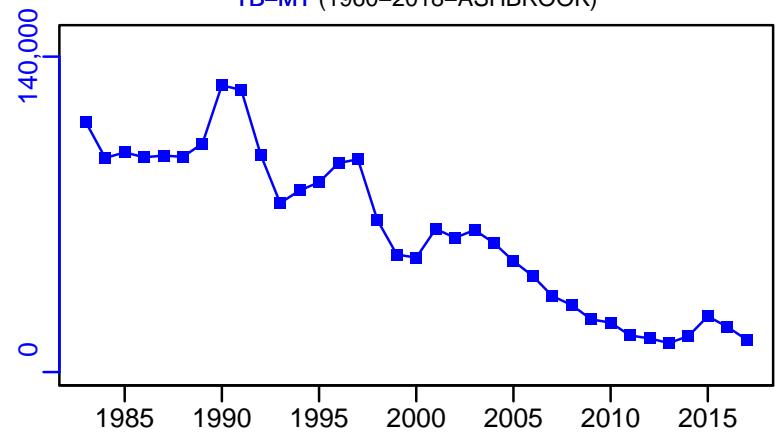


◆ Start Year ♦ End Year \* No Data

Atlantic cod Western Scotian Shelf, Bay of Fundy and Gulf of Maine [COD4X5Yb]

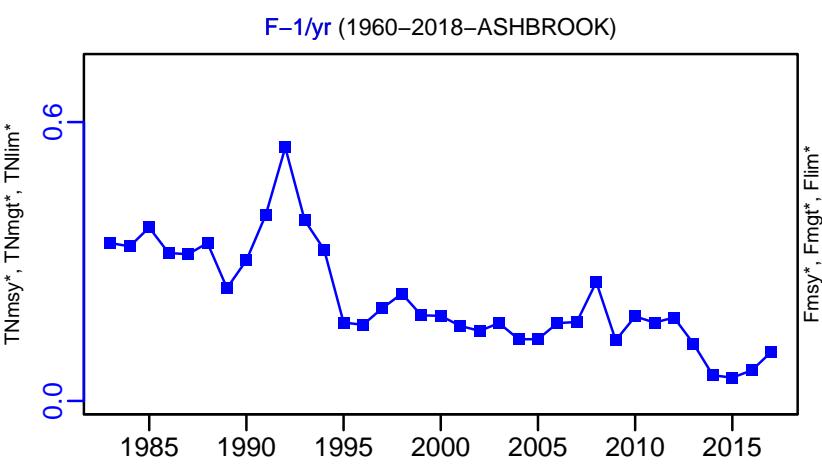
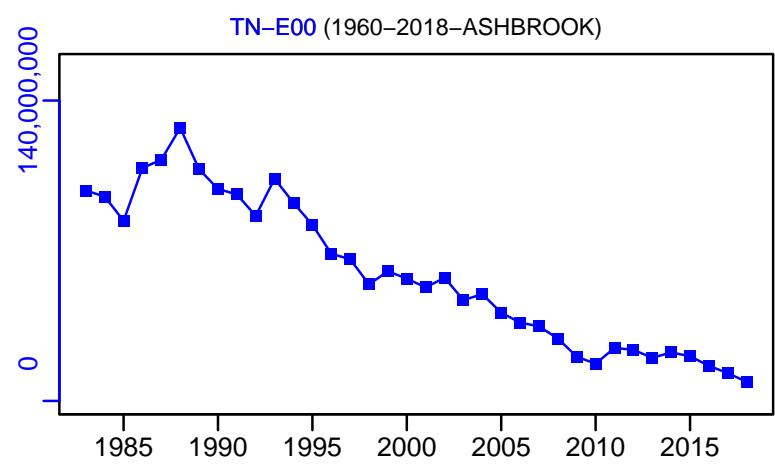
TB-MT (1960–2018–ASHBROOK)

SSB-MT (1960–2018–ASHBROOK)



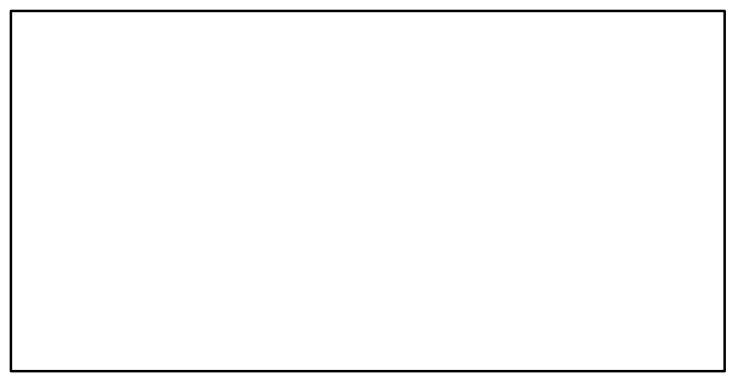
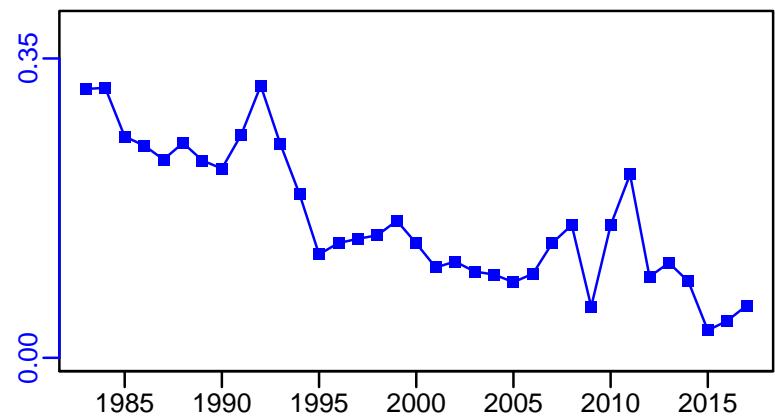
TN-E00 (1960–2018–ASHBROOK)

F-1/yr (1960–2018–ASHBROOK)



ER-calc-ratio (1960–2018–ASHBROOK)

Recruits\*

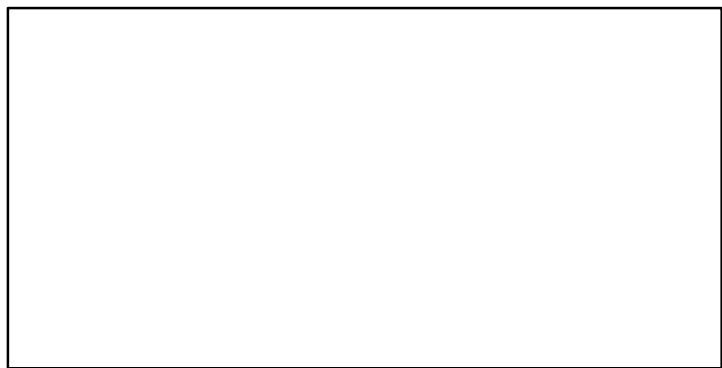
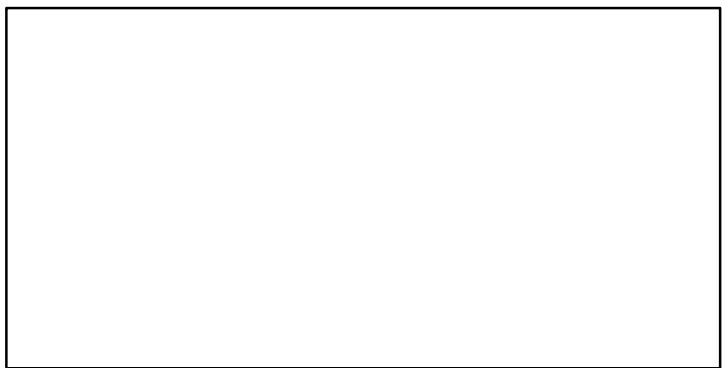
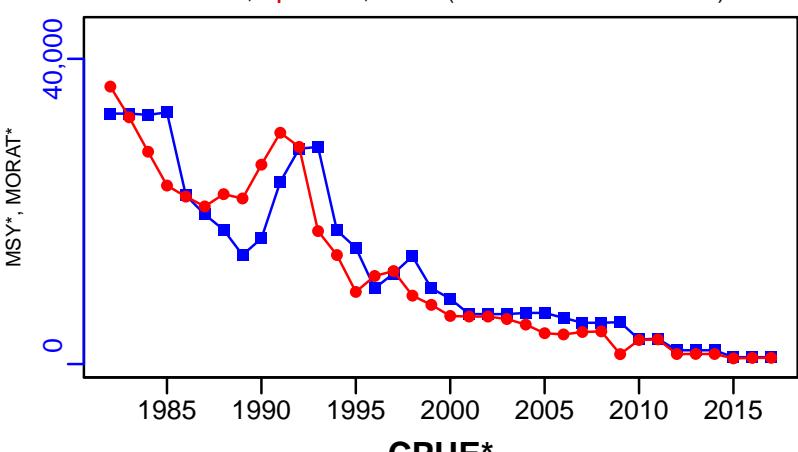
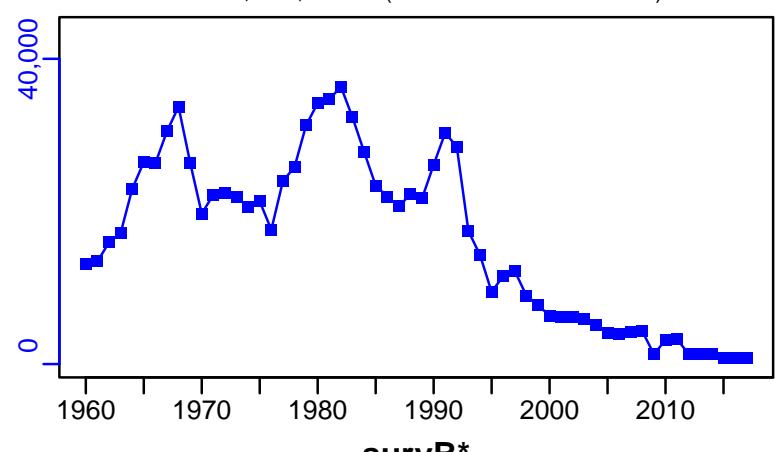


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| — MSY-based BRP      | --- Lim BRP  | * No Data |

Atlantic cod Western Scotian Shelf, Bay of Fundy and Gulf of Maine [COD4X5Yb]

TL-MT, TC\*, RecC\* (1960–2018–ASHBROOK)

TAC-MT, Cpair-MT, Cadv\* (1960–2018–ASHBROOK)



EFFORT\*



CdivMSY\*



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

## Atlantic cod NAFO 5Zjm [COD5Zjm]

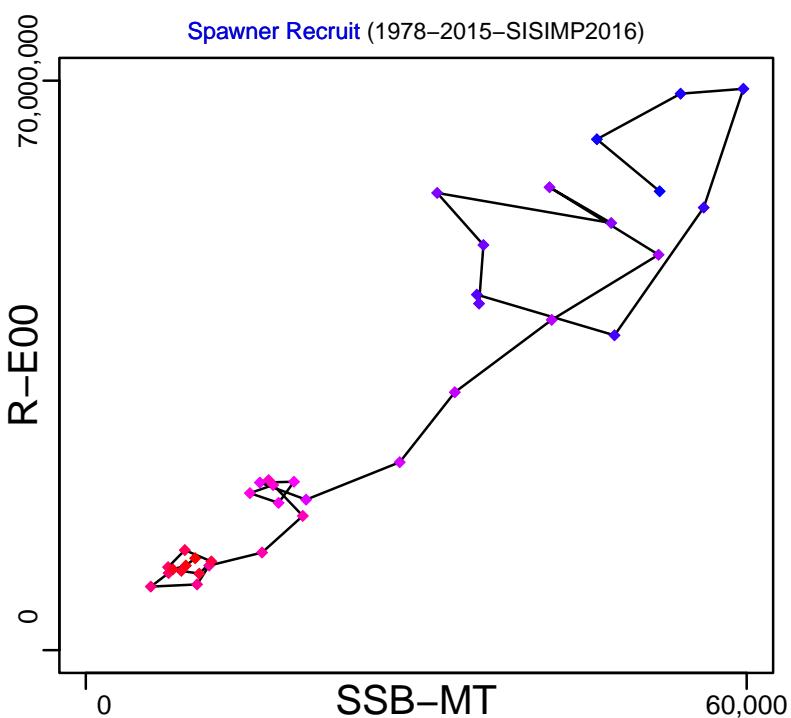
<b>Metadata</b>	
<b>Scientific Name</b>	Gadus morhua
<b>Current Assess ID</b>	TRAC-COD5Zjm-1978-2020-SISIMP2021-2
<b>Area</b>	NAFO 5Zjm
<b>Management Authority</b>	Transboundary Resource Assessment Committee (USA and Canada)
<b>Assessor</b>	Transboundary Resource Assessment Committee (USA and Canada)
<b>Asmts in RAM</b>	2017, 2018, 2010, 2015, 2018, 2019, 2020

<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2017	0.11
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	Fmgt-1/yr	2018	0.11
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2010	21,000
<b>Flim</b>	Flim-1/yr	2017	0.11
<b>ERlim</b>	-	-	-

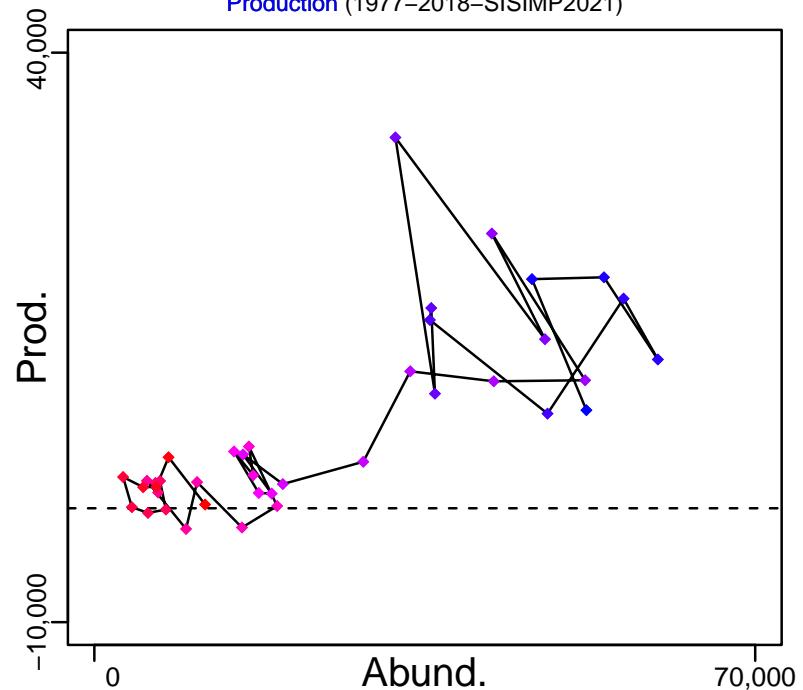
<b>Time Series</b>					
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Curr Value</b>	<b>Sex</b>	<b>Age</b>
<b>TB</b>	TB-MT	2018	6402	-	-
<b>SSB</b>	SSB-MT	2015	10,000	-	3+
<b>TN</b>	TN-E00	2010	3,390,000	-	3+
<b>R</b>	R-E00	2018	1,040,000	-	1
<b>F</b>	F-1/yr	2018	0.053	-	-
<b>ER</b>	ER-calc-ratio	2018	0.046	-	-
<b>TC</b>	TC-MT	2020	67		
<b>TL</b>	TL-MT	2010	1860		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2017	0.455		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2018	0.482		
<b>ER/ERmgt</b>	-	-	-		

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

Spawner Recruit (1978–2015–SISIMP2016)



Production (1977–2018–SISIMP2021)

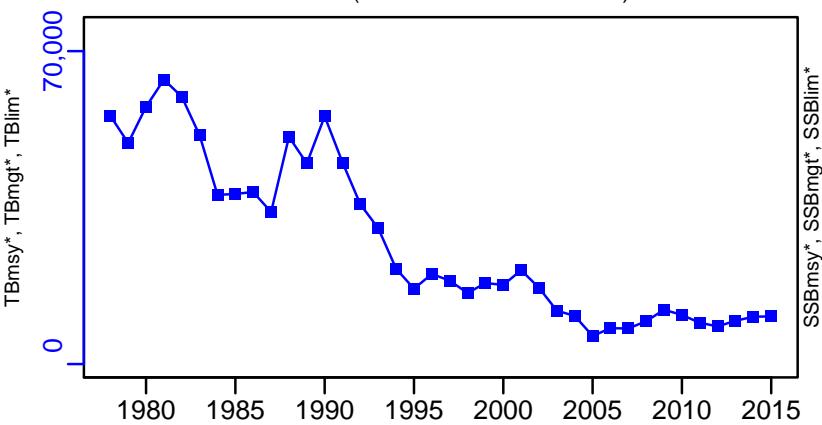
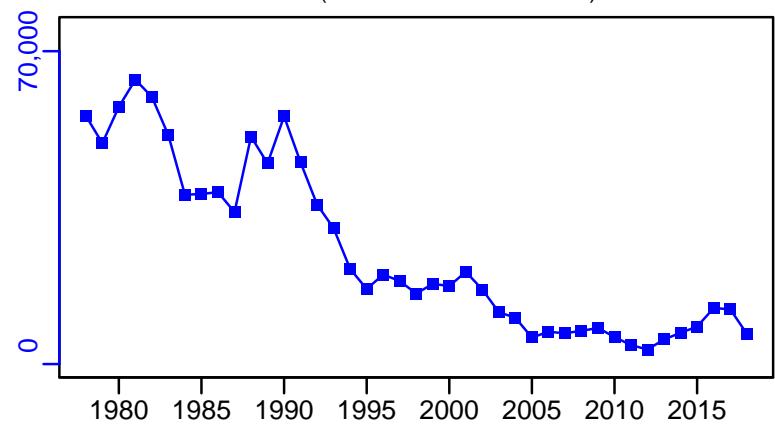


◆ Start Year	◆ End Year	*	No Data
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### Atlantic cod NAFO 5Zjm [COD5Zjm]

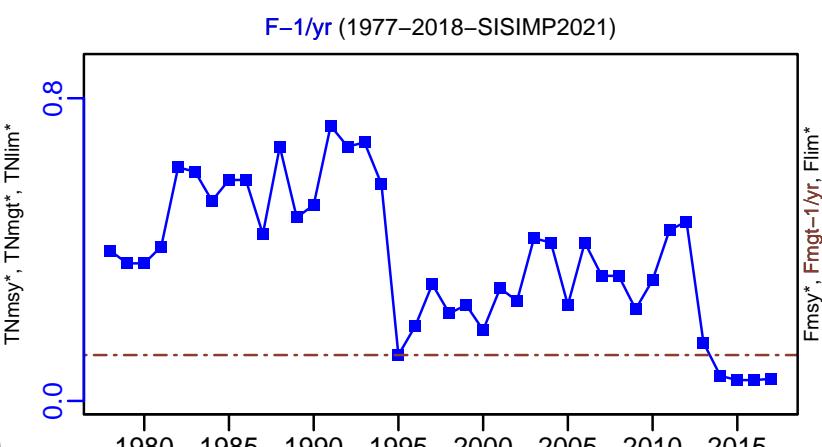
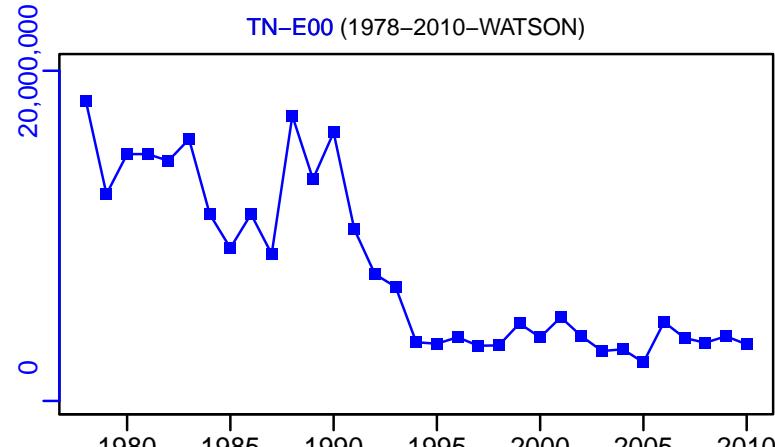
TB-MT (1977–2018–SISIMP2021)

SSB-MT (1978–2015–SISIMP2016)



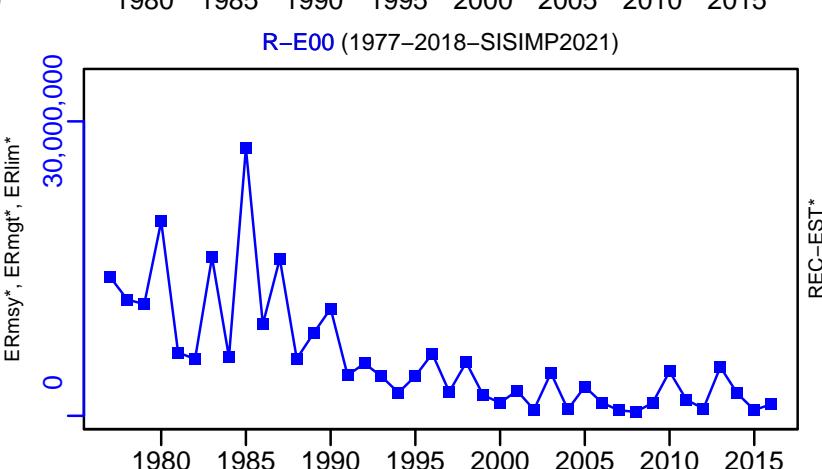
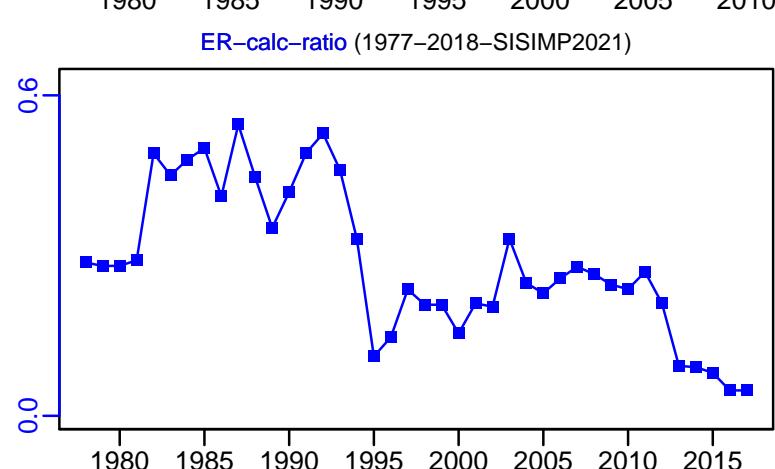
TN-E00 (1978–2010–WATSON)

F-1/yr (1977–2018–SISIMP2021)



ER-calc-ratio (1977–2018–SISIMP2021)

R-E00 (1977–2018–SISIMP2021)

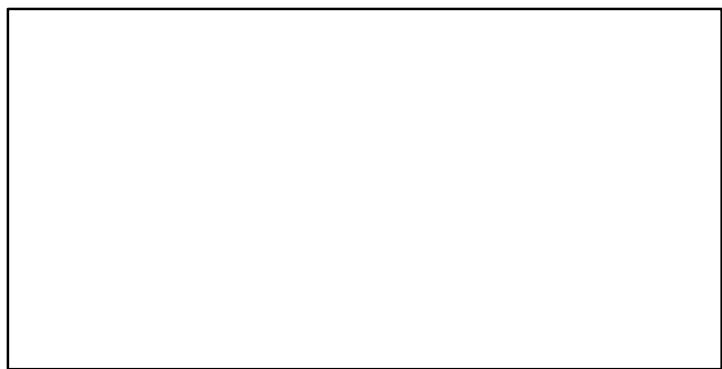
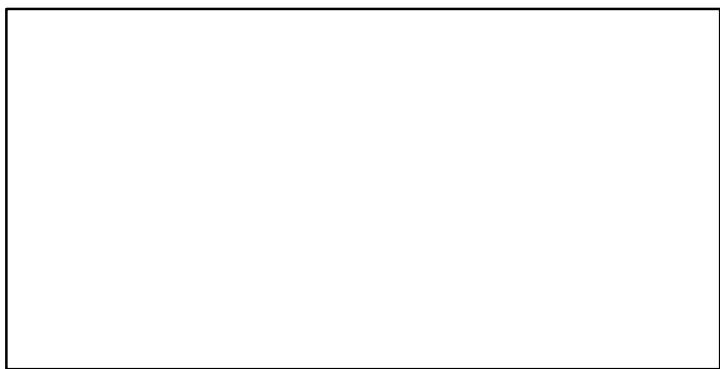
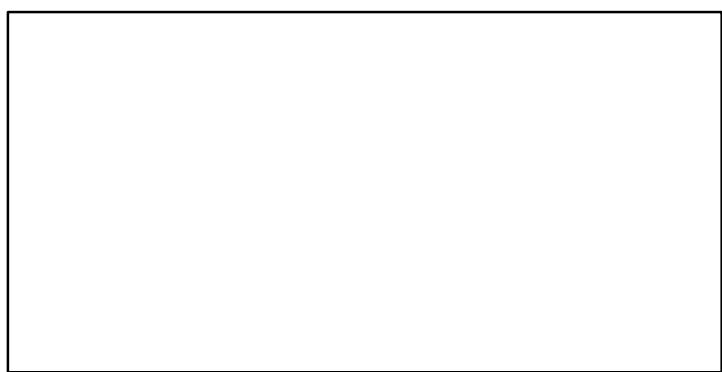
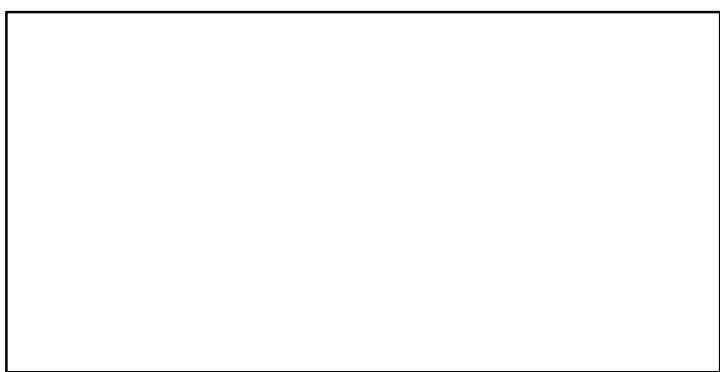
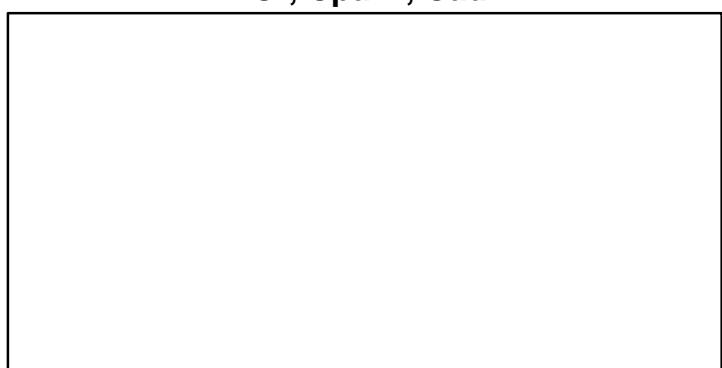
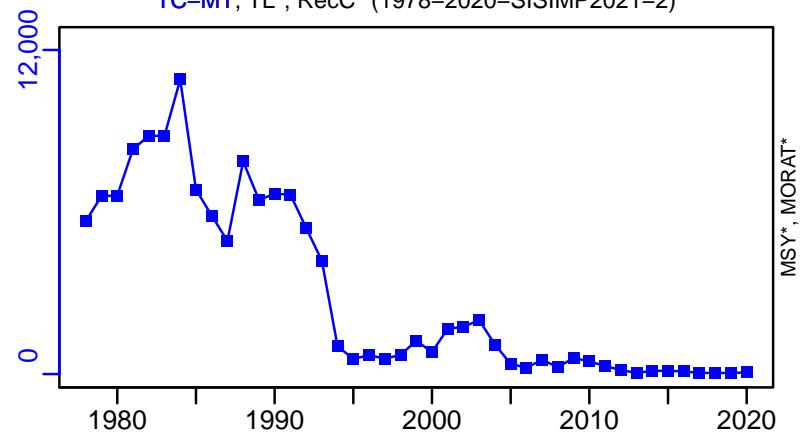


■ Listed time series	— Target BRP	— Rec-Est
— MSY-based BRP	--- Lim BRP	* No Data

Atlantic cod NAFO 5Zjm [COD5Zjm]

TC-MT, TL\*, RecC\* (1978–2020–SISIMP2021–2)

TAC\*, Cpair\*, Cadv\*



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

## Atlantic cod Western Baltic [CODBA2224]

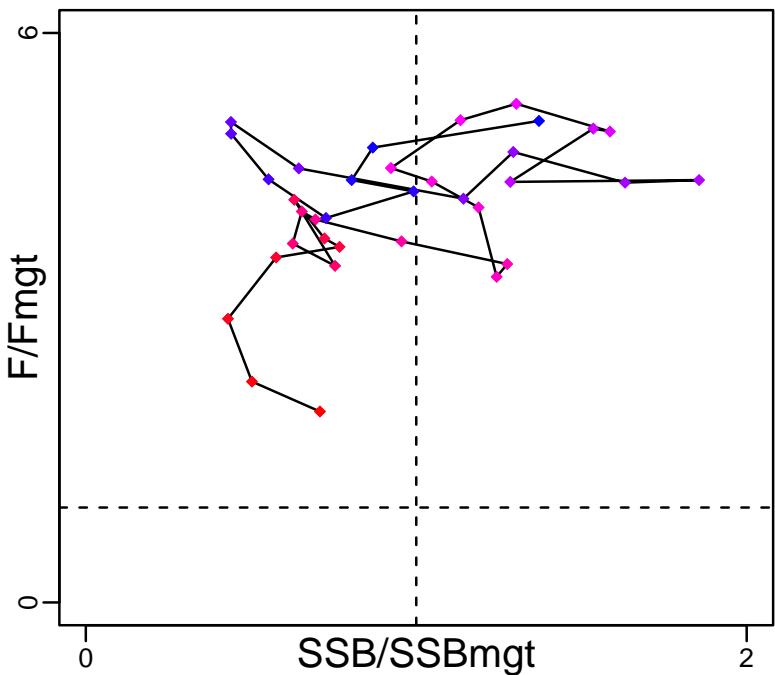
<b>Metadata</b>	
<b>Scientific Name</b>	Gadus morhua
<b>Current Assess ID</b>	WGBFAS-CODBA2224-1985-2021-ICESIMP2021-2
<b>Area</b>	Western Baltic
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Baltic Fisheries Assessment Working Group
<b>Asmts in RAM</b>	2012, 2013, 2014, 2019, 2020, 2021, 2015, 2016, 2016, 2017, 2018

<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2021	0.26
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2020	21,876
<b>Fmgt</b>	Fmgt-1/yr	2021	0.26
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-MT	2012	23,000
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2021	15,100
<b>Flim</b>	Flim-1/yr	2021	1.23
<b>ERlim</b>	-	-	-

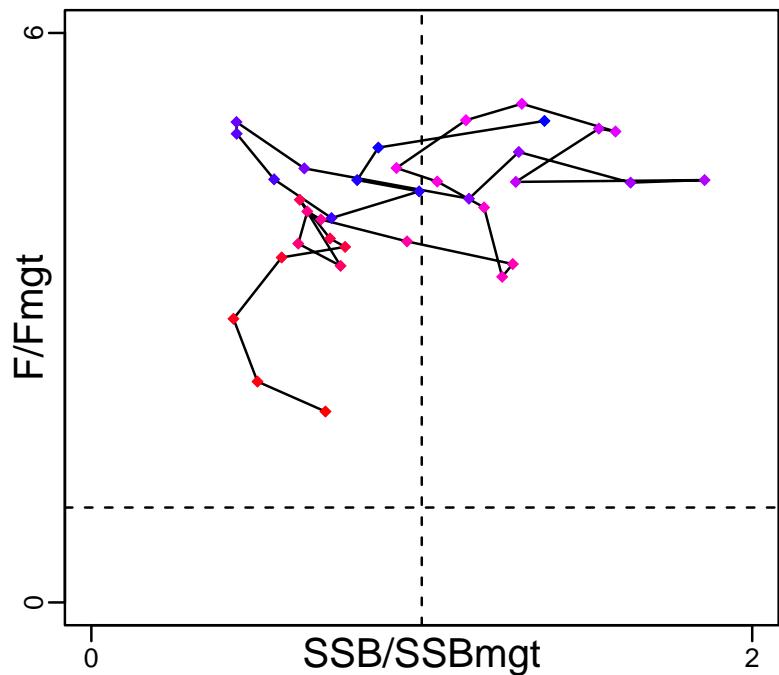
<b>Time Series</b>					
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Curr Value</b>	<b>Sex</b>	<b>Age</b>
<b>TB</b>	TB-MT	2019	22,710	-	-
<b>SSB</b>	SSB-MT	2021	7800	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2021	17,400,000	-	1
<b>F</b>	F-1/yr	2021	0.882	-	-
<b>ER</b>	ER-calc-ratio	2019	0.29	-	-
<b>TC</b>	TC-MT	2019	5312		
<b>TL</b>	TL-MT	2021	2900		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2021	3.392		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2020	0.914		
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2021	3.392		
<b>ER/ERmgt</b>	-	-	-		

Atlantic cod Western Baltic [CODBA2224]

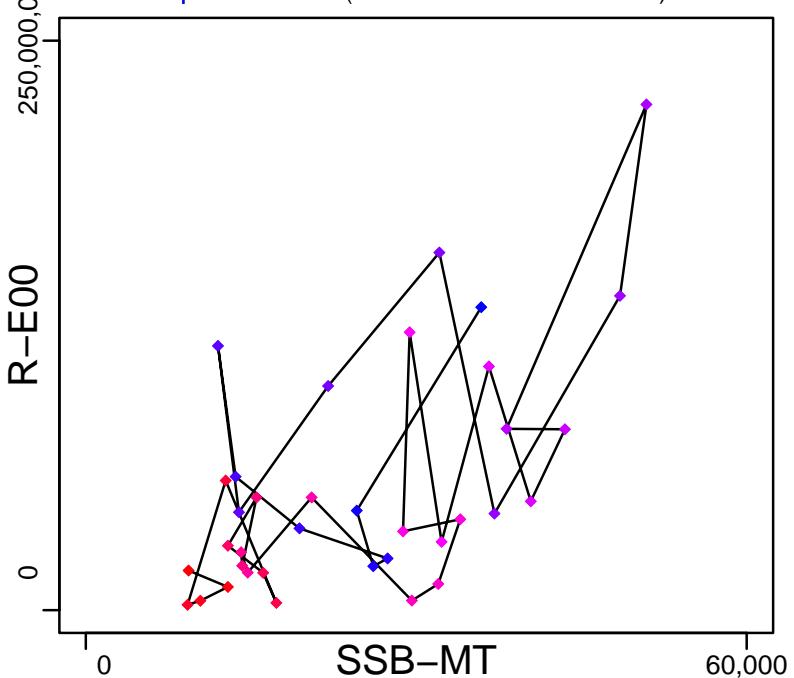
Kobe MSYpref (1985–2020–ICESIMP2021–2)



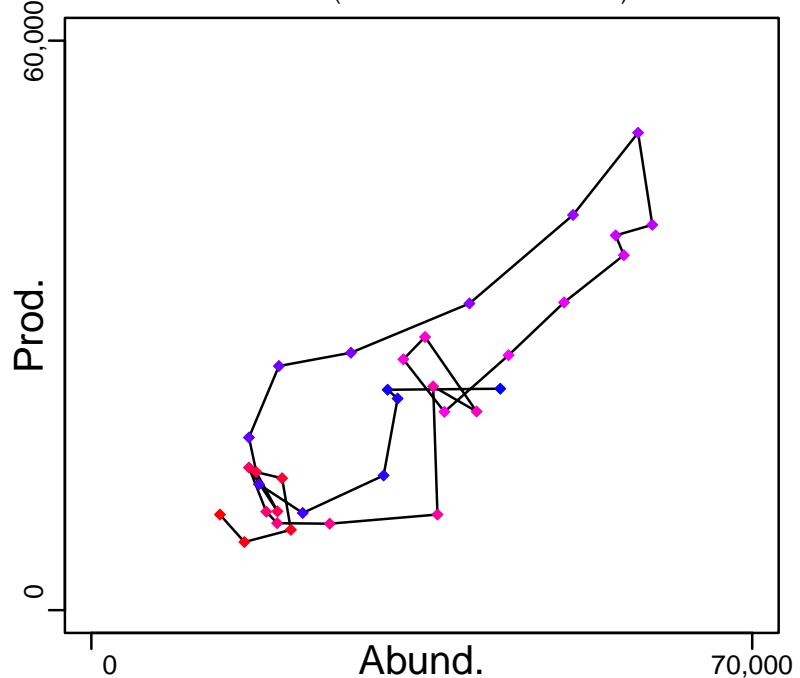
Kobe MGTpref (1985–2020–ICESIMP2021–2)



Spawner Recruit (1985–2021–ICESIMP2021–2)



Production (1984–2019–ICESIMP2021)

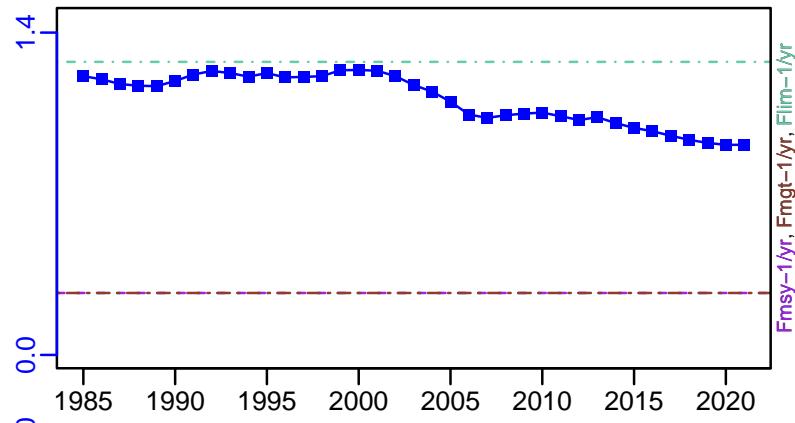
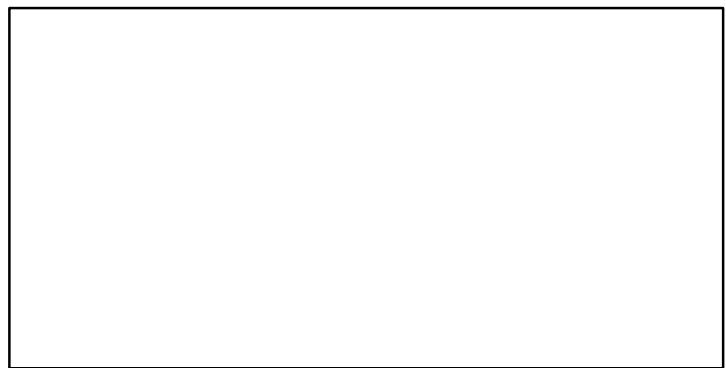
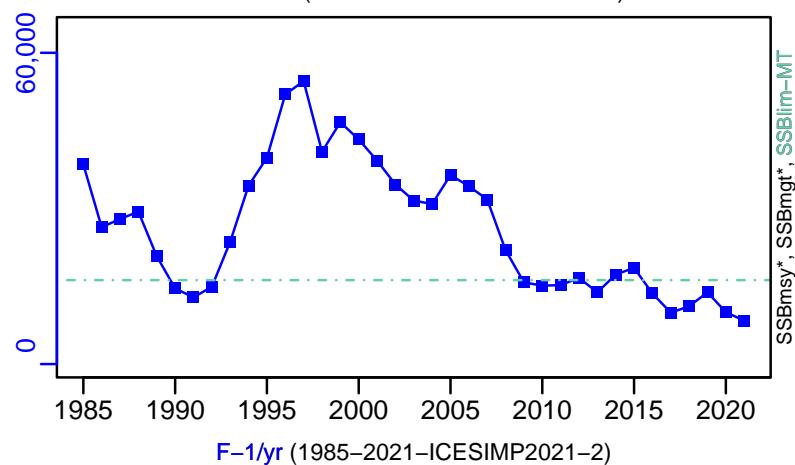
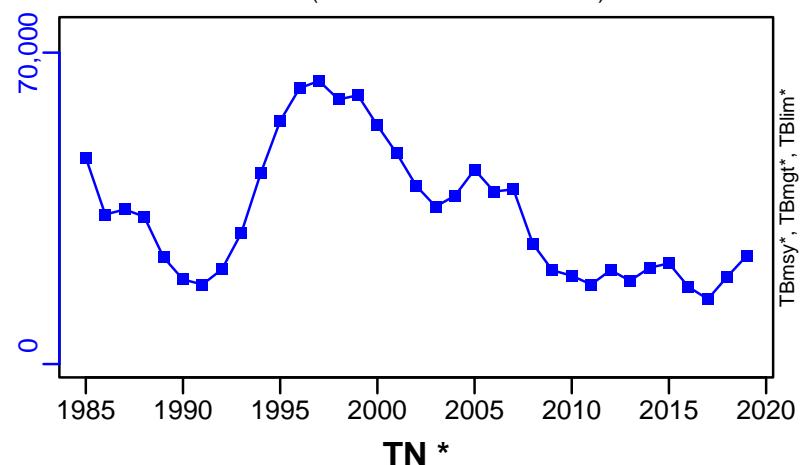


◆ Start Year   ◆ End Year   \* No Data

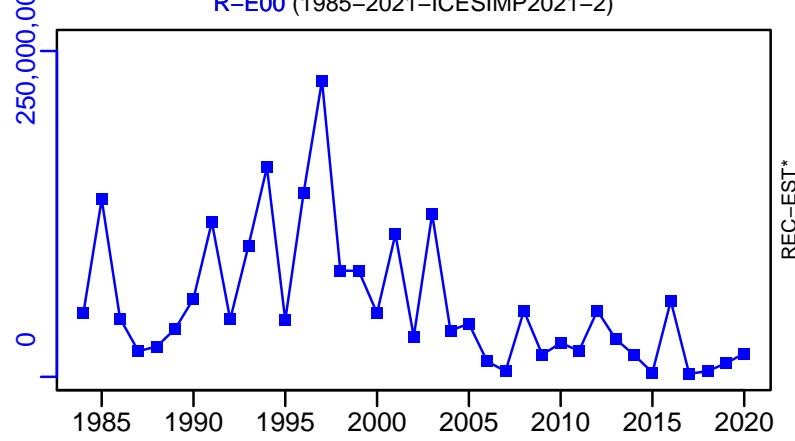
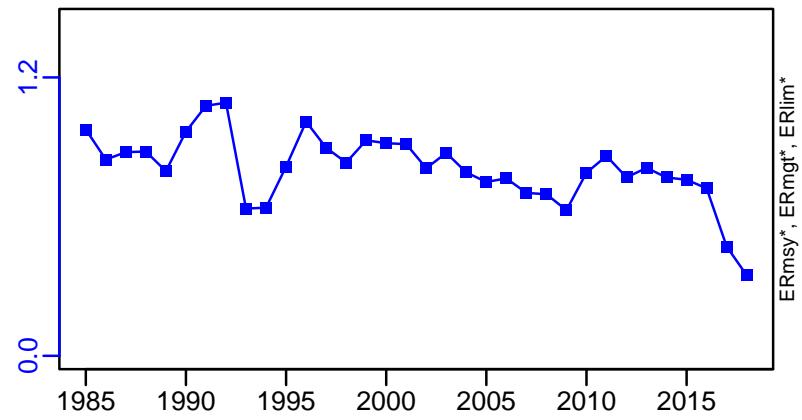
### Atlantic cod Western Baltic [CODBA2224]

TB-MT (1984–2019–ICESIMP2021)

SSB-MT (1985–2021–ICESIMP2021–2)



ER-calc-ratio (1984–2019–ICESIMP2021)

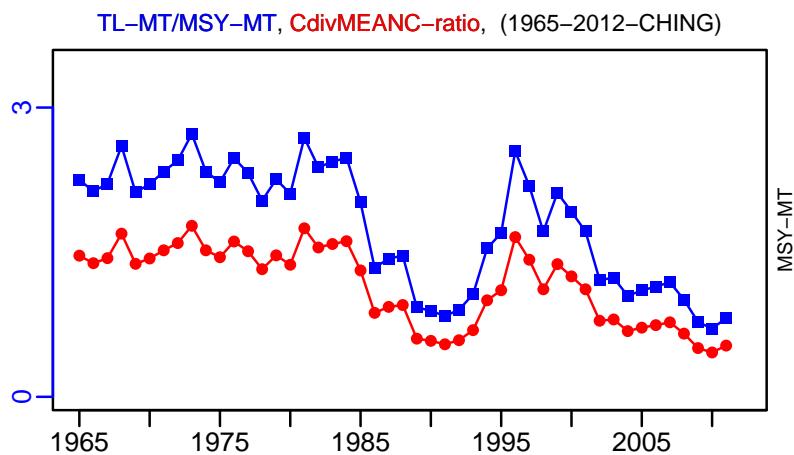
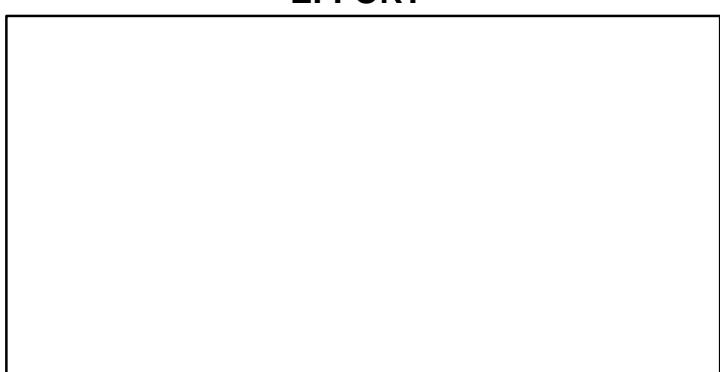
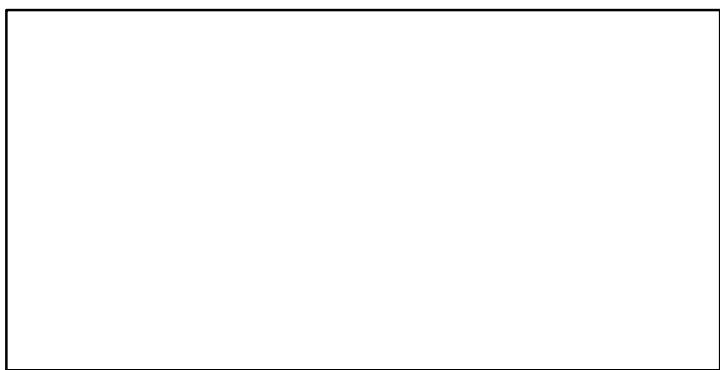
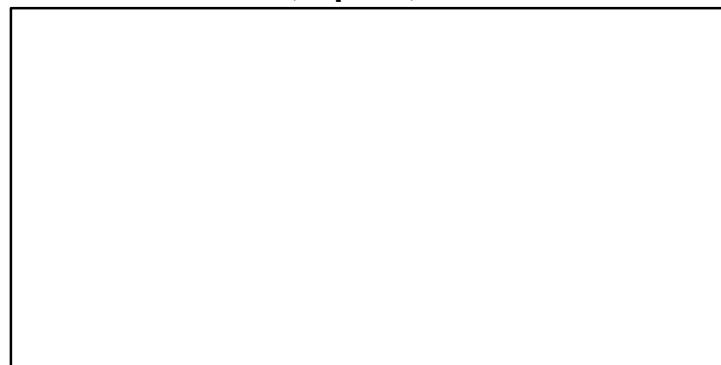
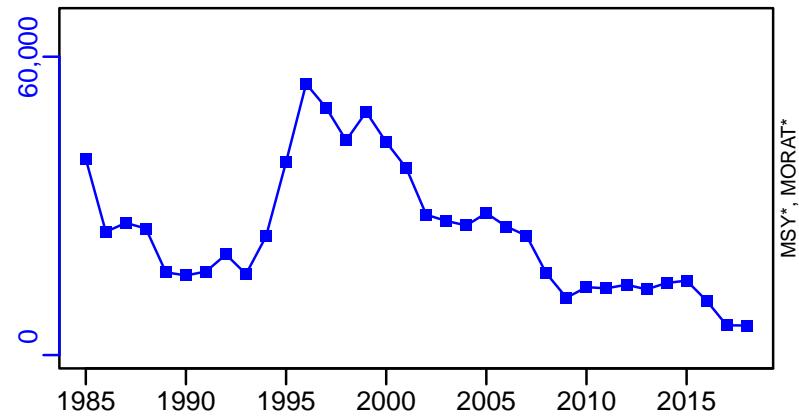


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	- - Lim BRP	* No Data

Atlantic cod Western Baltic [CODBA2224]

TC-MT, TL\*, RecC\* (1984–2019–ICESIMP2021)

TAC\*, Cpair\*, Cadv\*



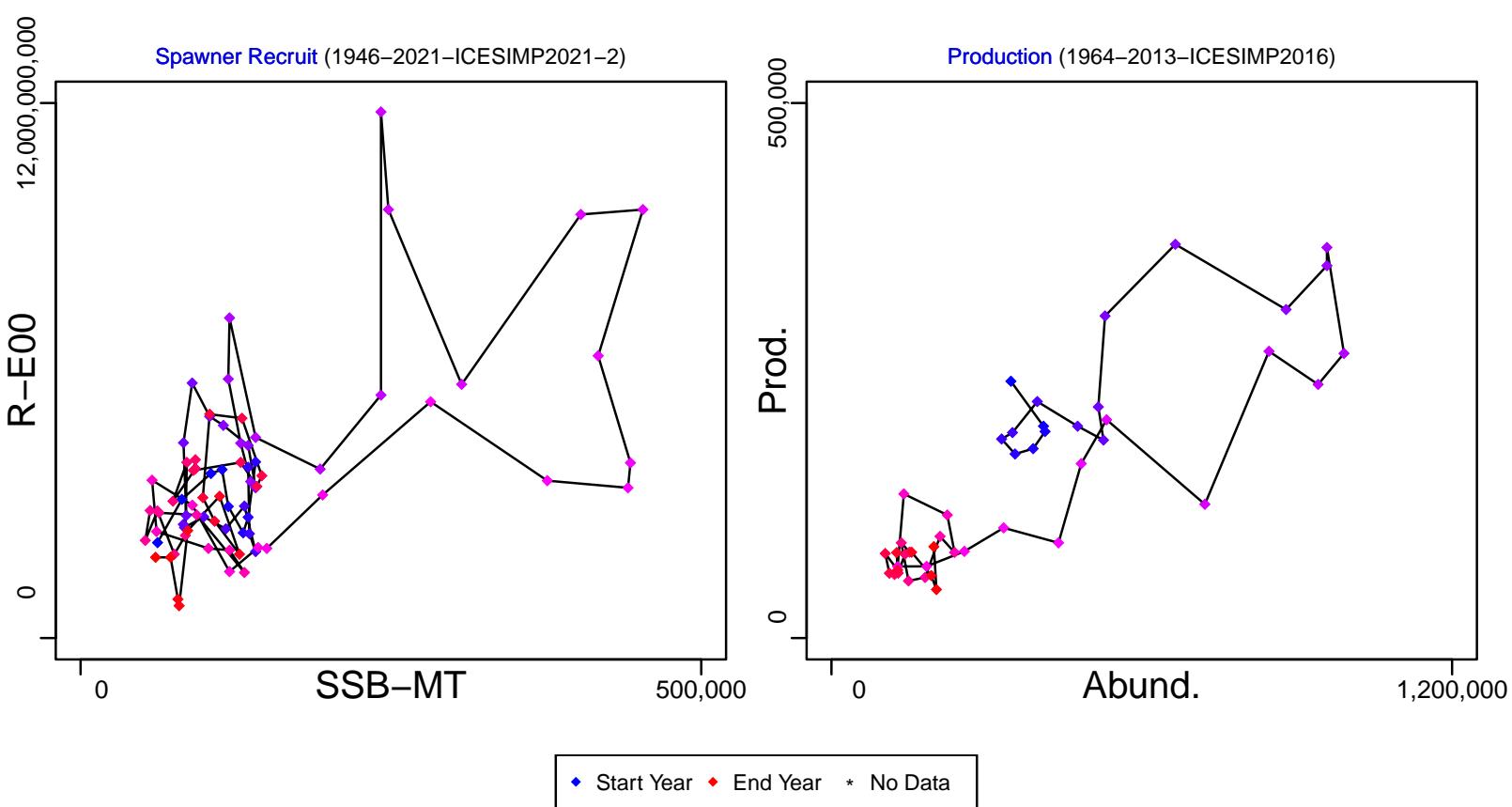
■ 1st listed time series	▲ 3rd listed time series	— MORAT
● 2nd listed time series	- - - MSY	* No Data

## Atlantic cod Eastern Baltic [CDBA2532]

<b>Metadata</b>	
<b>Scientific Name</b>	Gadus morhua
<b>Current Assess ID</b>	WGBFAS-CDBA2532-1946-2021-ICESIMP2021-2
<b>Area</b>	Eastern Baltic
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Baltic Fisheries Assessment Working Group
<b>Asmts in RAM</b>	2019, 2020, 2021, 2013, 2016, 2016, 2017, 2012

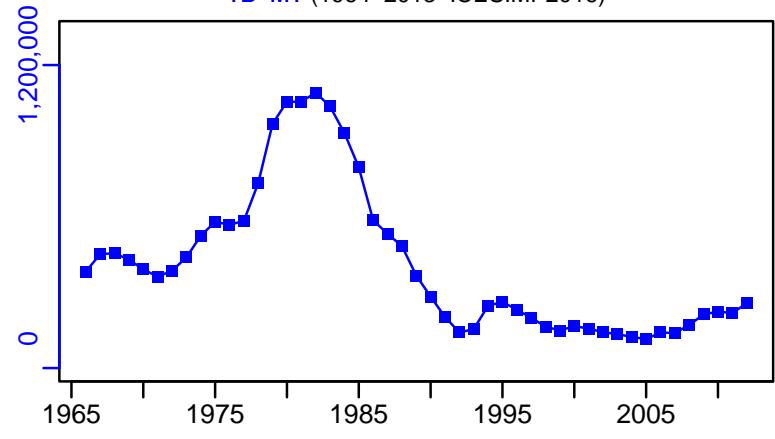
<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2012	0.3
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2021	116,000
<b>Fmgt</b>	Fmgt-1/yr	2013	0.3
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2021	104,000
<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	2013	233,000	Both	-	
<b>SSB</b>	SSB-MT	2021	60,400	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2021	$1.81 \times 10^9$	-	0	
<b>F</b>	F-1/yr	2021	0.032	-	-	
<b>ER</b>	ER-ratio	2016	0.344	-	-	
<b>TC</b>	TC-MT	2021	2420			
<b>TL</b>	TL-MT	2021	2310			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2012	0.857			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2021	0.521			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2013	1.243			
<b>ER/ERmgt</b>	-	-	-			

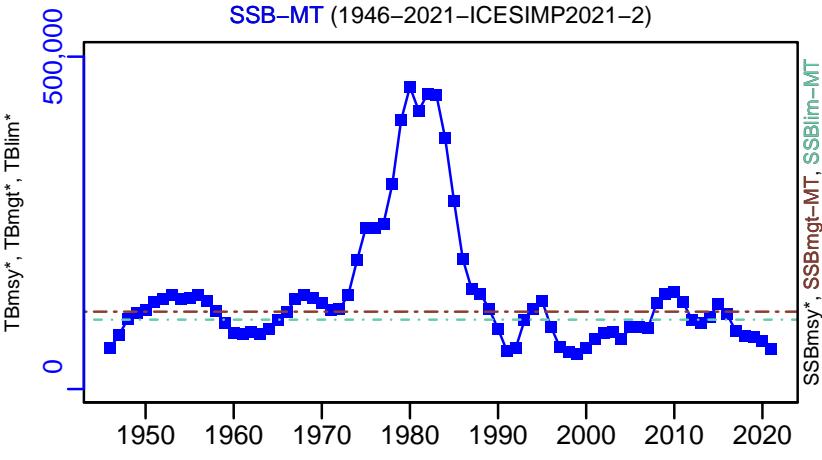
**Kobe MSY\*****Kobe MGT\***

### Atlantic cod Eastern Baltic [CODBA2532]

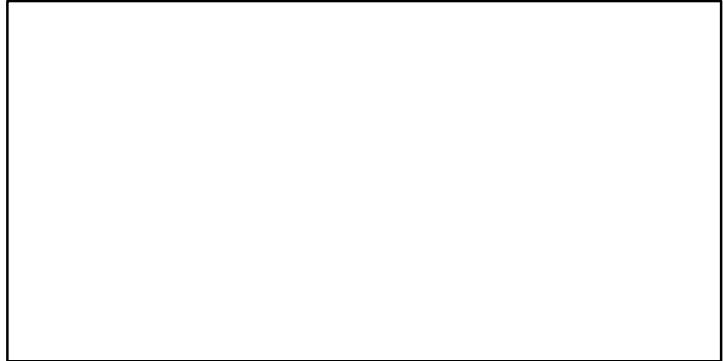
TB-MT (1964–2013–ICESIMP2016)



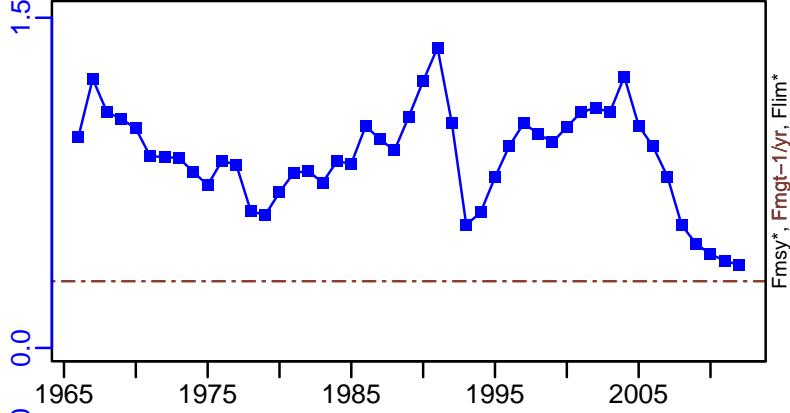
SSB-MT (1946–2021–ICESIMP2021–2)



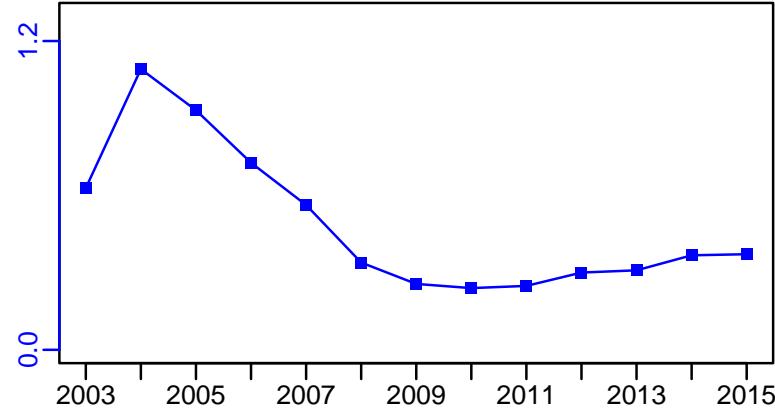
TN \*



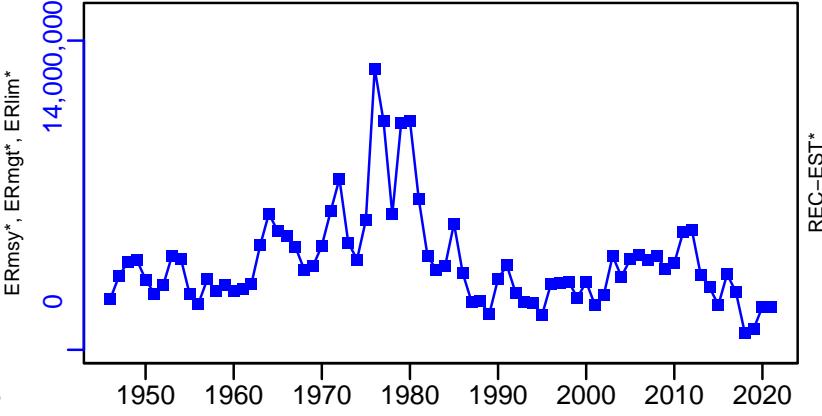
F-1/yr (1964–2013–ICESIMP2016)



ER-ratio (1965–2016–ICESIMP2016)



R-E00 (1946–2021–ICESIMP2021–2)

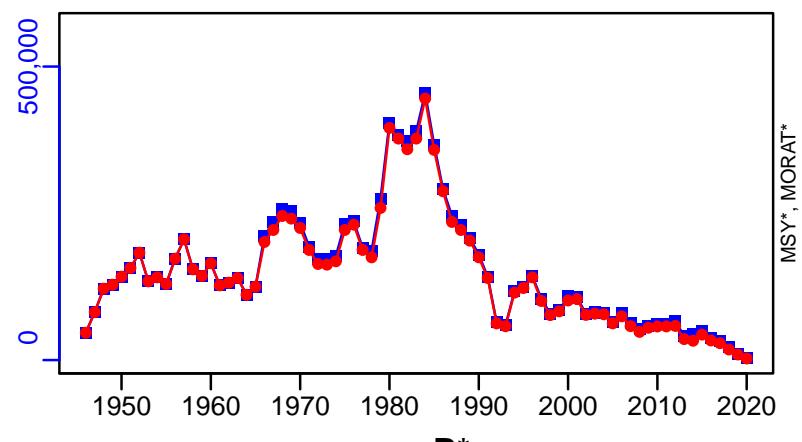


■ Listed time series	— Target BRP	— Rec-Est
- MSY-based BRP	--- Lim BRP	* No Data

Atlantic cod Eastern Baltic [CDBA2532]

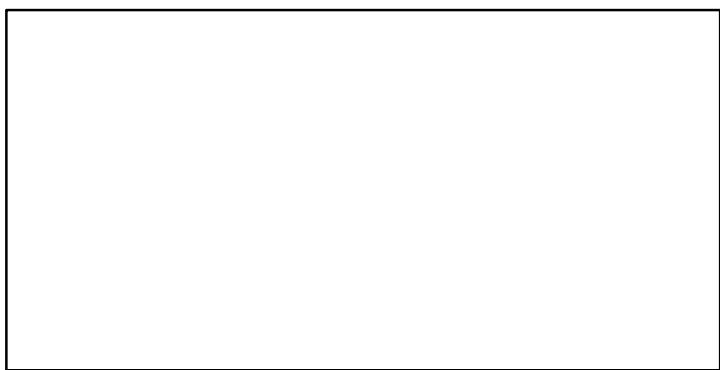
TC-MT, TL-MT, RecC\* (1946–2021–ICESIMP2021–2)

TAC\*, Cpair\*, Cadv\*



survB\*

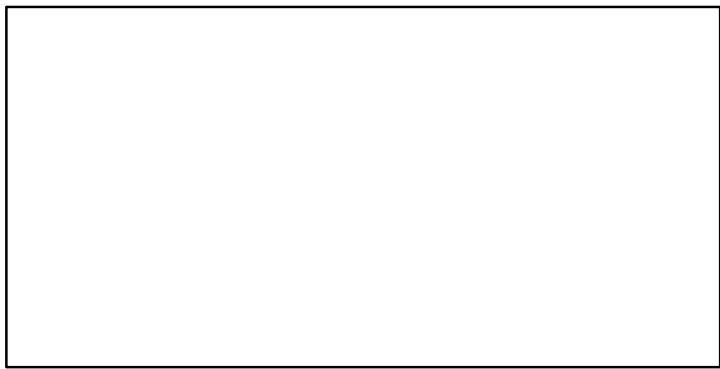
MSY\*, MORAT\*



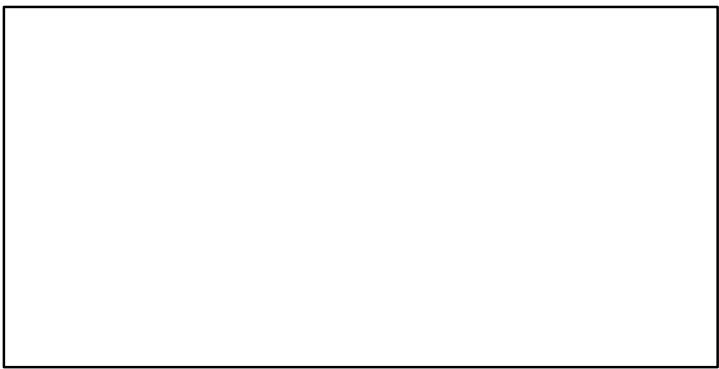
CPUE\*



EFFORT\*



CdivMSY\*



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

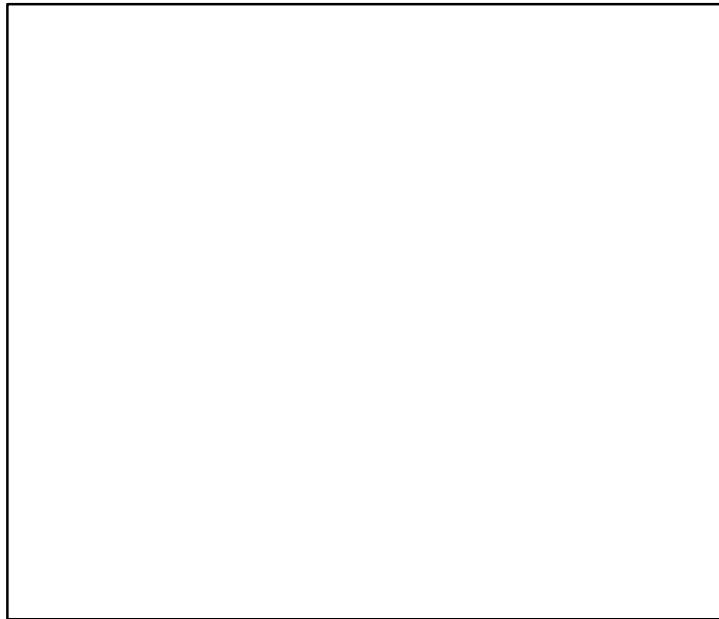
## Atlantic cod Faroe Bank [CODFABNK]

<b>Metadata</b>	
<b>Scientific Name</b>	Gadus morhua
<b>Current Assess ID</b>	NWWG-CODFABNK-1965-2018-ICESIMP2021
<b>Area</b>	Faroe Bank
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	North-Western Working Group
<b>Asmts in RAM</b>	2016, 2018

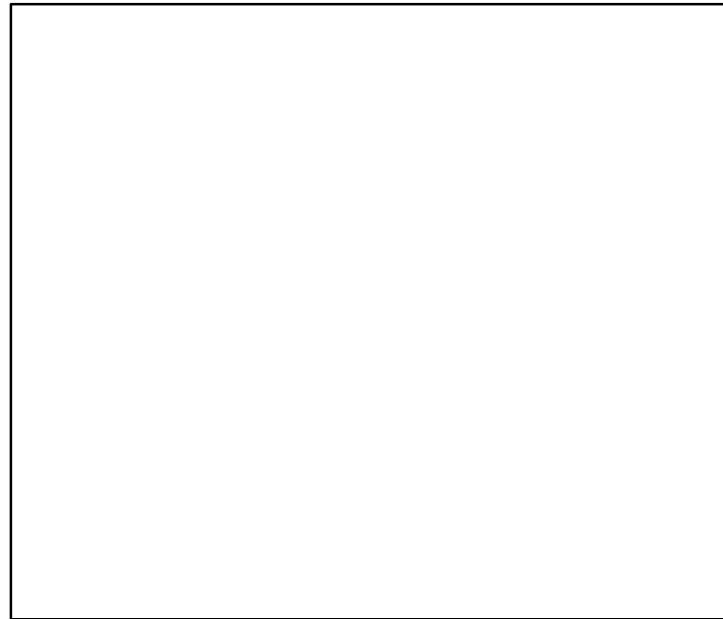
<b>Reference Points</b>			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>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

<b>Time Series</b>					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2018	31		
<b>TL</b>	TL-MT	2018	31		
<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>	-	-	-		

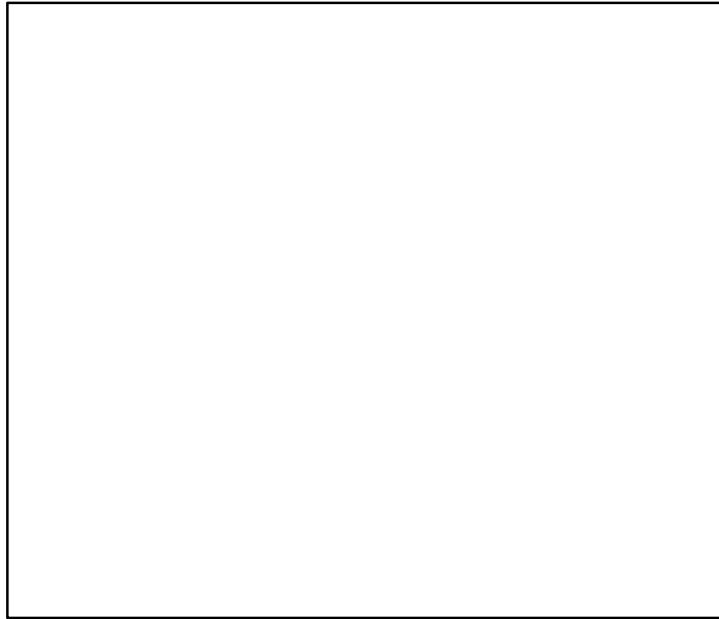
**Kobe MSY\***



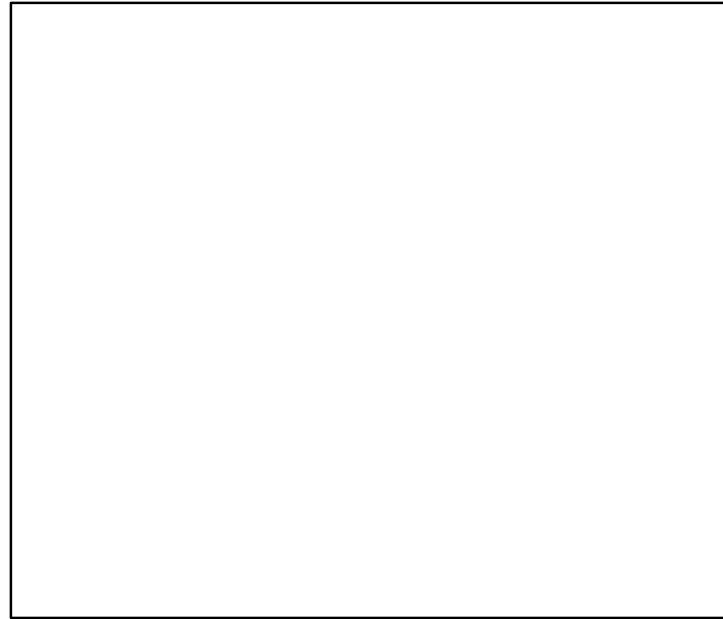
**Kobe MGT\***



**Spawner Recruit\***



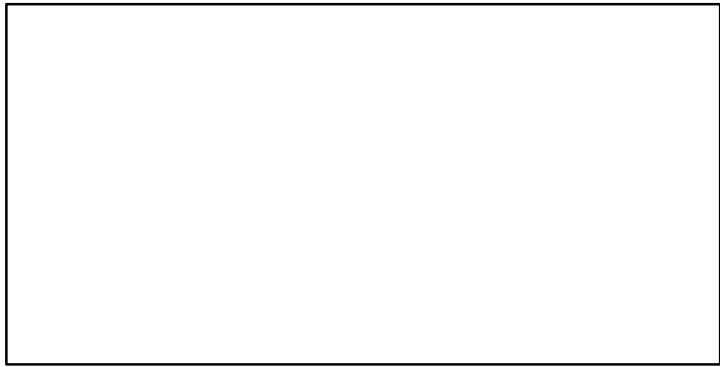
**Production\***



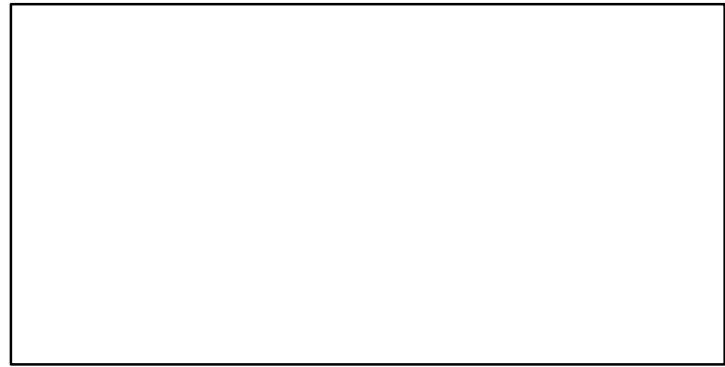
◆ Start Year ♦ End Year \* No Data

Atlantic cod Faroe Bank [CODFABNK]

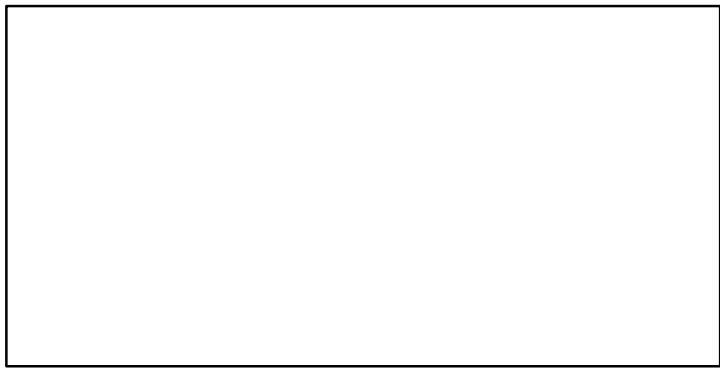
**TB\***



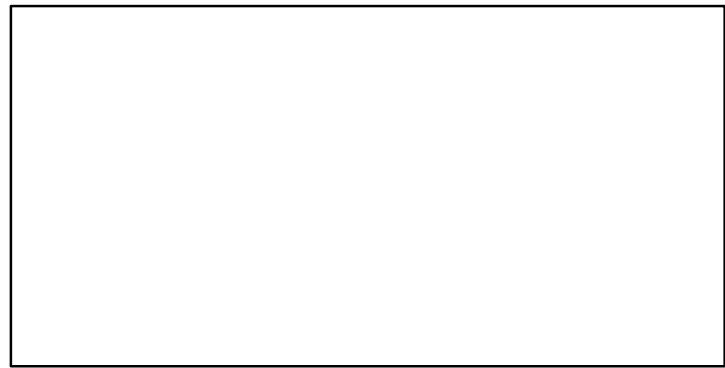
**SSB\***



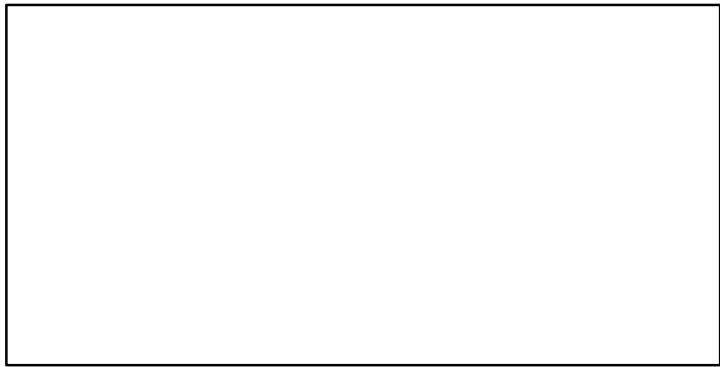
**TN \***



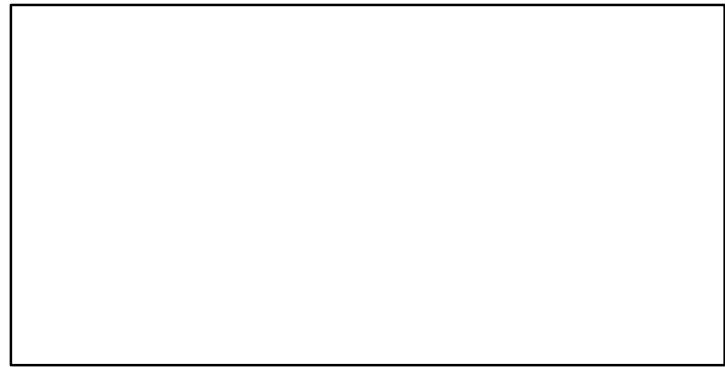
**F\***



**ER\***



**Recruits\***

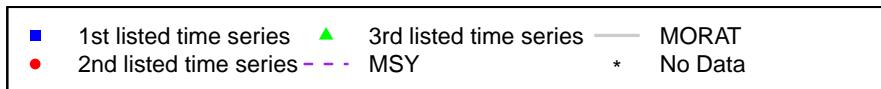
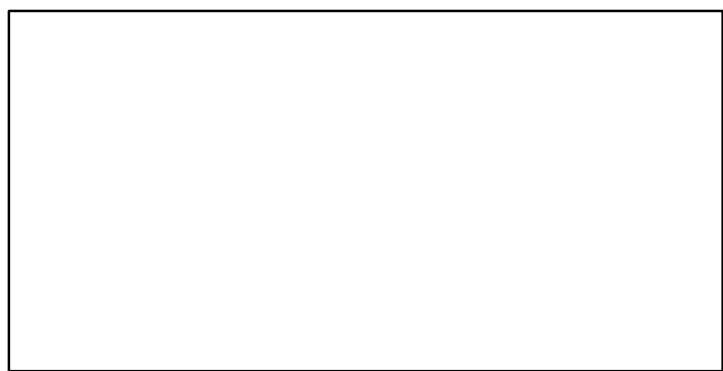
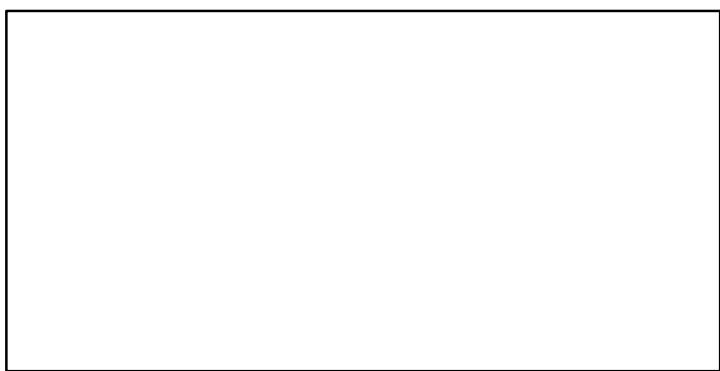
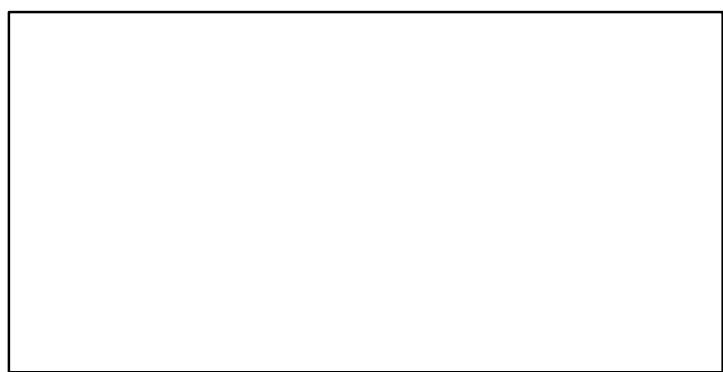
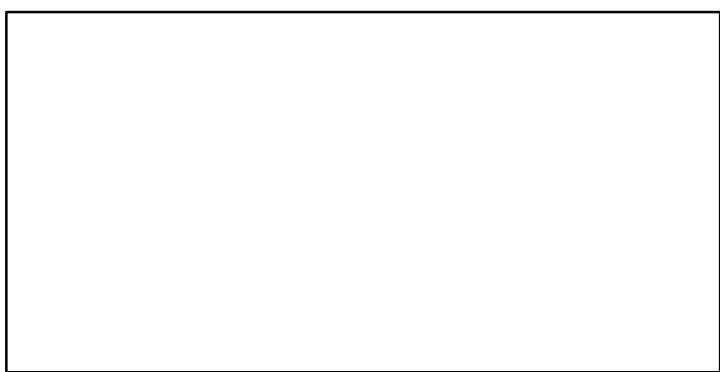
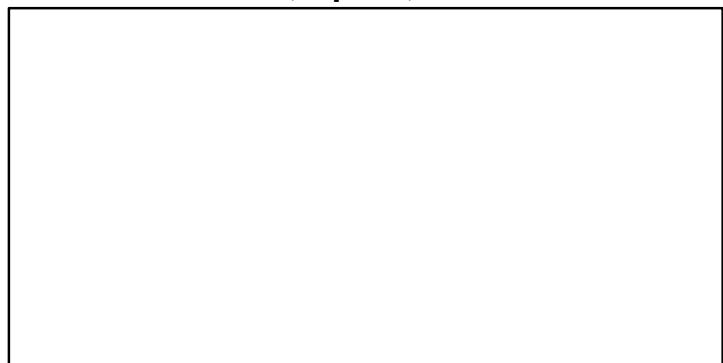
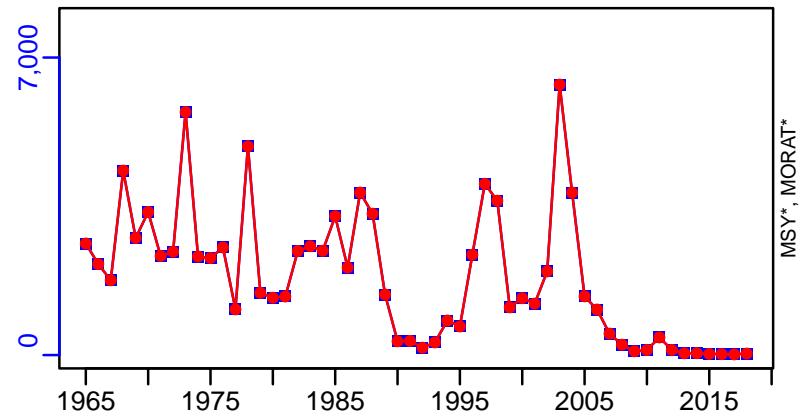


- |       |                    |       |            |   |         |
|-------|--------------------|-------|------------|---|---------|
| ■     | Listed time series | - - - | Target BRP | — | Rec-Est |
| - - - | MSY-based BRP      | - - - | Lim BRP    | * | No Data |

Atlantic cod Faroe Bank [CODFABNK]

TC-MT, TL-MT, RecC\* (1965–2018–ICESIMP2021)

TAC\*, Cpair\*, Cadv\*

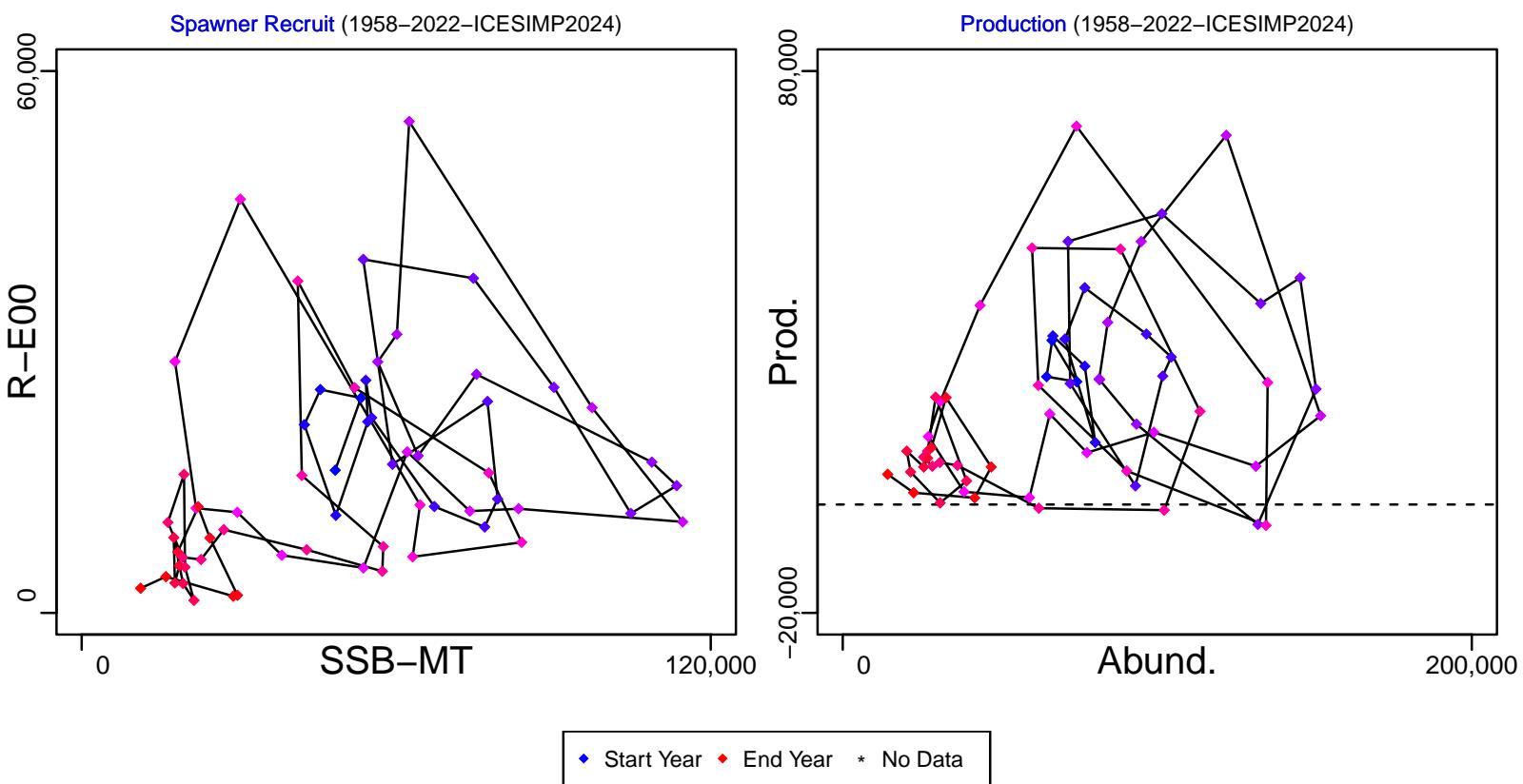


## Atlantic cod Faroe Plateau [CODFAPL]

<b>Metadata</b>	
<b>Scientific Name</b>	Gadus morhua
<b>Current Assess ID</b>	NWWG-CODFAPL-1958-2022-ICESIMP2024
<b>Area</b>	Faroe Plateau
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	North-Western Working Group
<b>Asmts in RAM</b>	2015, 2016, 2017, 2018, 2019, 2021, 2022, 2012, 2013, 2014, 2020

<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2022	0.37
<b>ERmsy</b>	ERmsy-ratio	2019	0.23
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	Fmgt-1/yr	2022	0.37
<b>ERmgt</b>	ERmgt-ratio	2019	0.23
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2022	17,803
<b>Flim</b>	Flim-1/yr	2022	1.47
<b>ERlim</b>	-	-	-

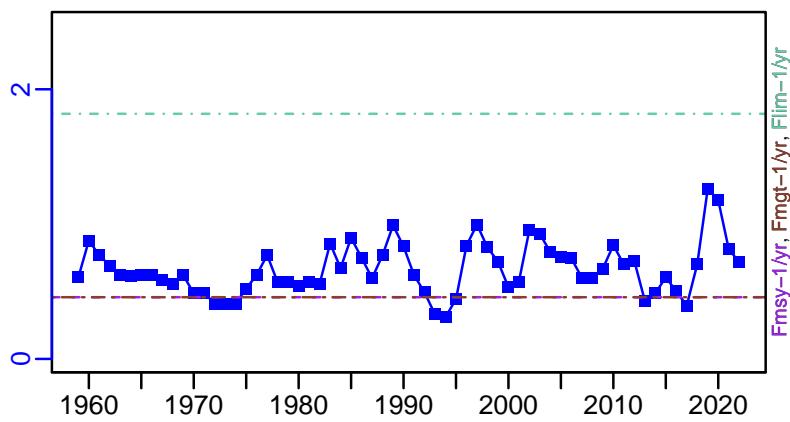
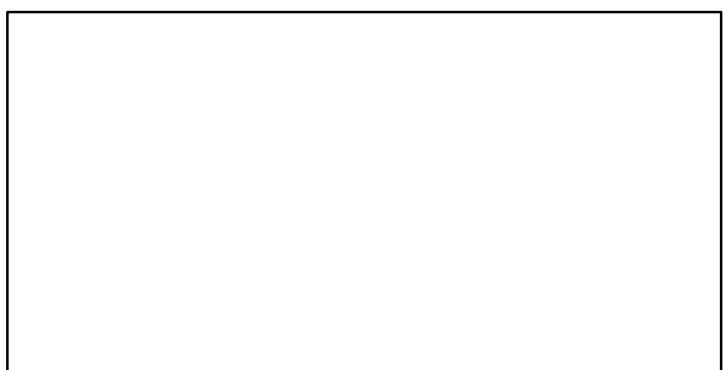
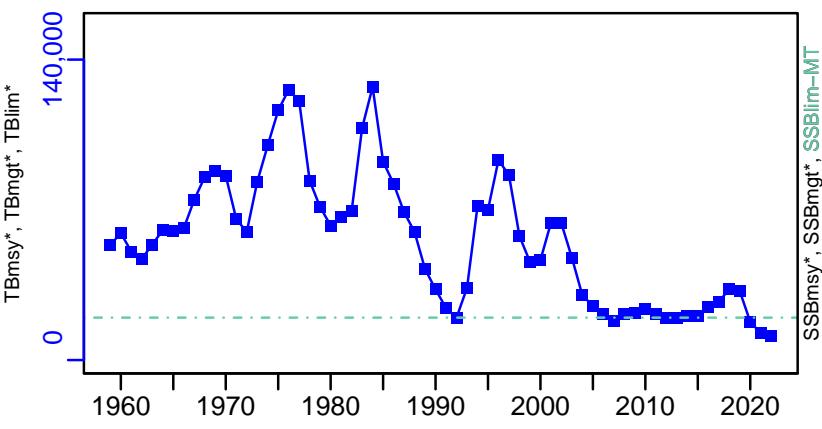
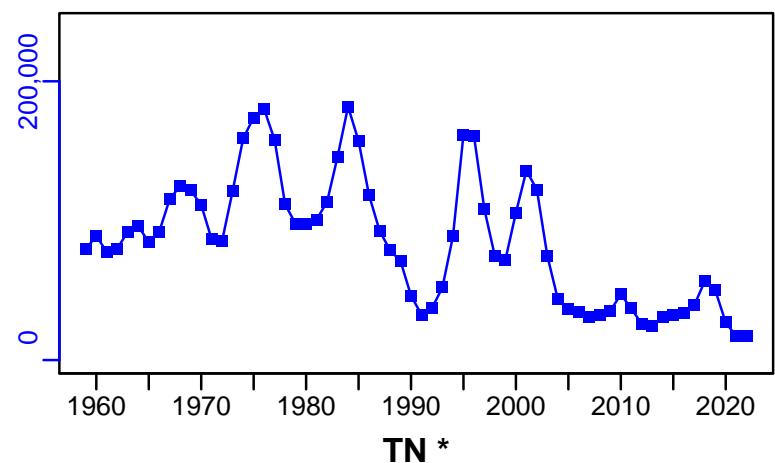
<b>Time Series</b>						
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Curr Value</b>	<b>Sex</b>	<b>Age</b>	
<b>TB</b>	TB-MT	2022	14,448	-	-	
<b>SSB</b>	SSB-MT	2022	10,190	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2022	2724	-	1	
<b>F</b>	F-1/yr	2022	0.58	-	3 to 7	
<b>ER</b>	ER-calc-ratio	2022	0.281	-	-	
<b>TC</b>	TC-MT	2022	4064			
<b>TL</b>	TL-MT	2022	4064			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2022	1.568			
<b>ER/ERmsy</b>	ER-ratio/ERmsy-ratio	2019	1.857			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2022	1.568			
<b>ER/ERmgt</b>	-	-	-			

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

### Atlantic cod Faroe Plateau [CODFAPL]

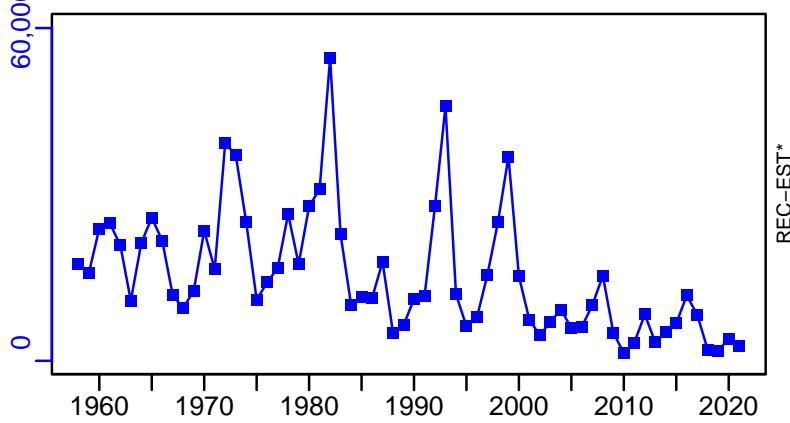
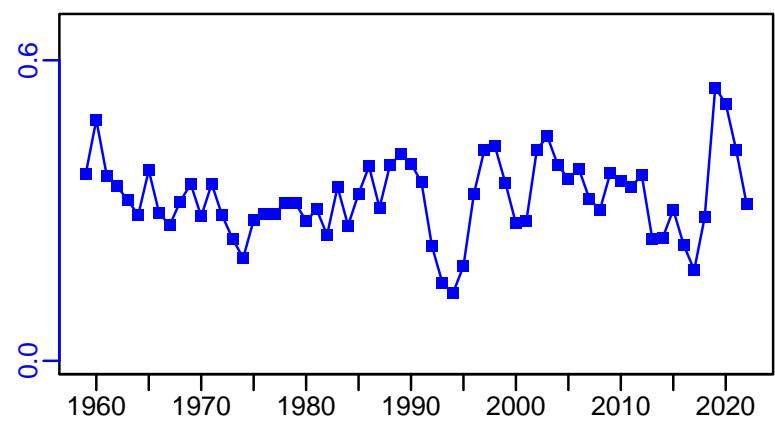
TB-MT (1958–2022–ICESIMP2024)

SSB-MT (1958–2022–ICESIMP2024)



ER-calc-ratio (1958–2022–ICESIMP2024)

R-E00 (1958–2022–ICESIMP2024)

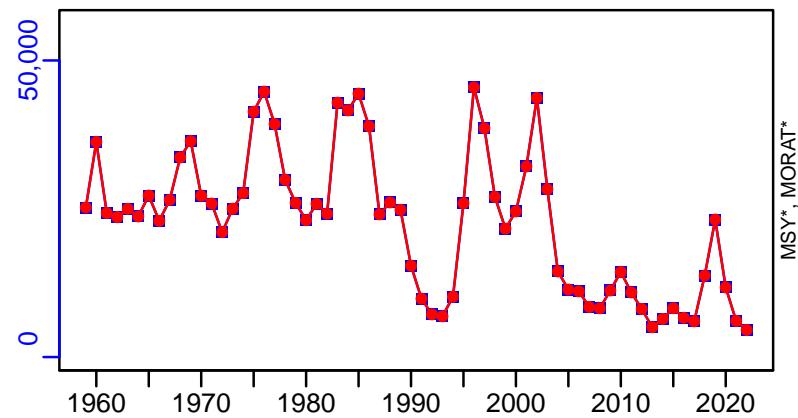


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	··· Lim BRP	* No Data

Atlantic cod Faroe Plateau [CODFAPL]

TC-MT, TL-MT, RecC\* (1958–2022–ICESIMP2024)

TAC\*, Cpair\*, Cadv\*



MSY\*, MORAT\*

CPUE\*

EFFORT\*

CdivMSY\*

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

## Atlantic cod Georges Bank [CODGB]

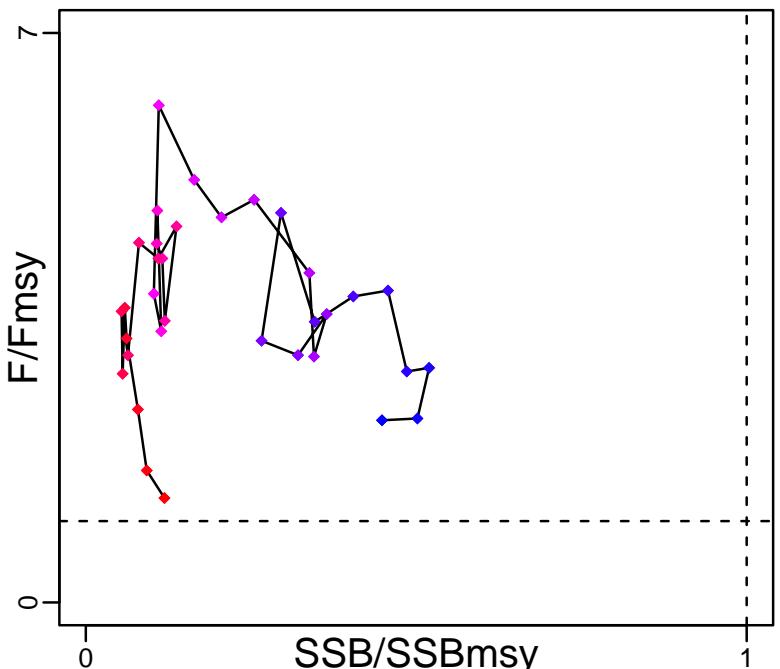
<b>Metadata</b>	
<b>Scientific Name</b>	Gadus morhua
<b>Current Assess ID</b>	NEFSC-CODGB-1981-2019-SISIMP2021-2
<b>Area</b>	Georges Bank
<b>Management Authority</b>	National Marine Fisheries Service, US national management
<b>Assessor</b>	Northeast Fisheries Science Center
<b>Asmts in RAM</b>	2011, 2019, 2016

<b>Reference Points</b>			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	SSBmsy-MT	2011	186,535
<b>Fmsy</b>	Fmsy-1/yr	2011	0.18
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-MT	2011	28,774
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

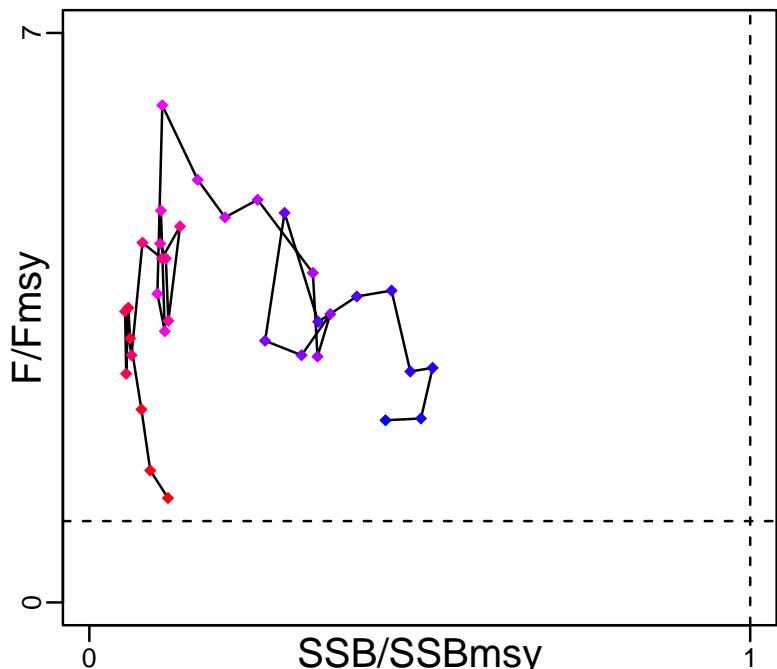
<b>Time Series</b>						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	-	-	-	-	-	
<b>SSB</b>	SSB-MT	2011	22,200	-	2.4+	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2011	7,930,000	-	-	
<b>F</b>	F-1/yr	2011	0.231	-	-	
<b>ER</b>	ER-ratio	2019	0.119	-	-	
<b>TC</b>	TC-MT	2019	1180			
<b>TL</b>	-	-	-			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2011	0.119			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2011	1.283			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

Atlantic cod Georges Bank [CODGB]

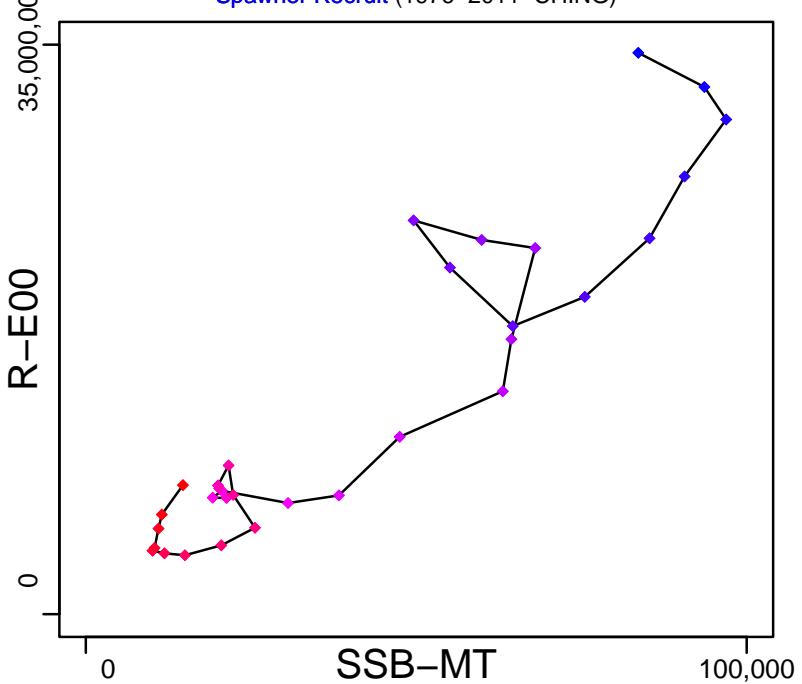
Kobe MSYpref (1976–2011–CHING)



Kobe MGTpref (1976–2011–CHING)



Spawner Recruit (1976–2011–CHING)



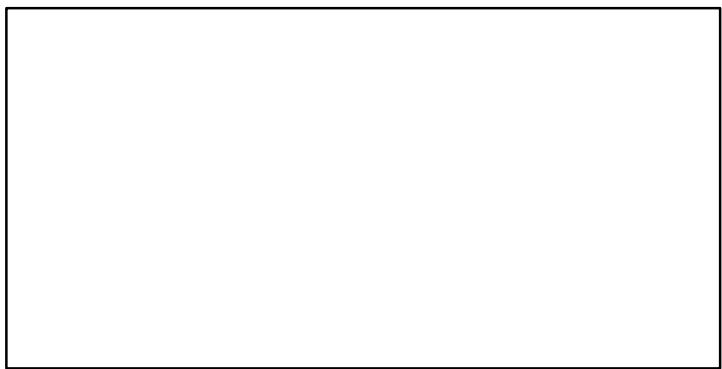
SSB/SSBmsy

**Production\***

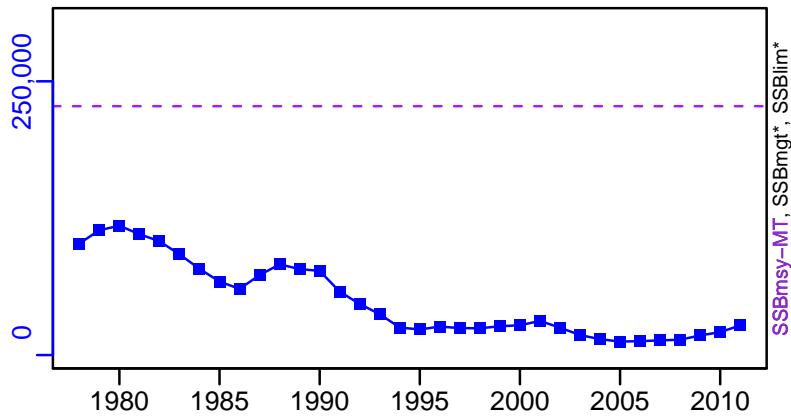
◆ Start Year   ◆ End Year   \* No Data

Atlantic cod Georges Bank [CODGB]

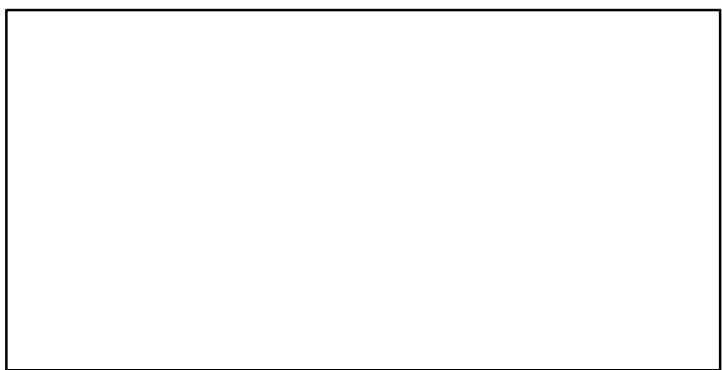
**TB\***



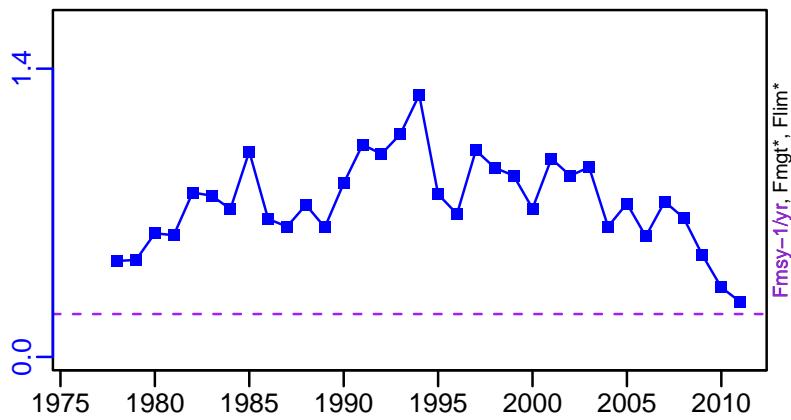
**SSB-MT** (1976–2011–CHING)



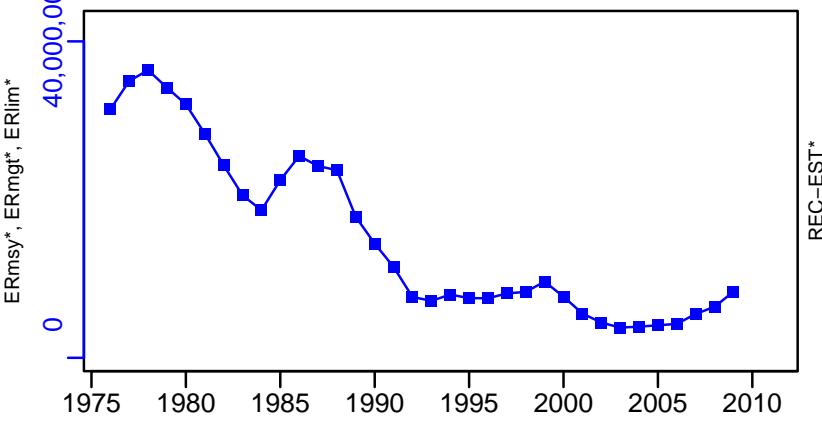
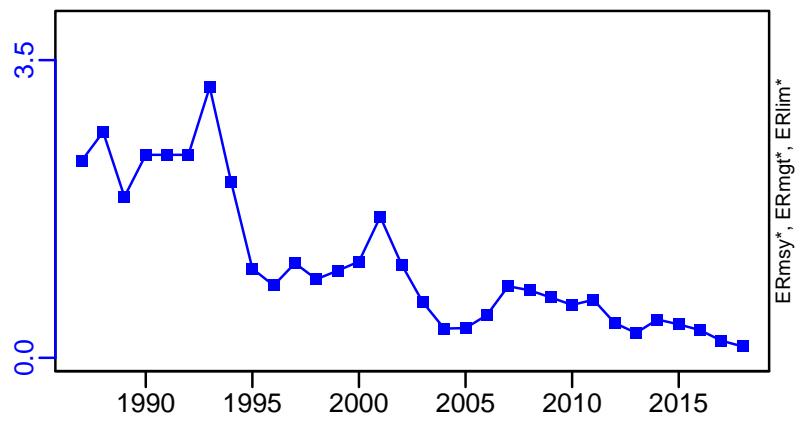
**TN \***



**F-1/yr** (1976–2011–CHING)



**ER-ratio** (1981–2019–SISIMP2021–2)

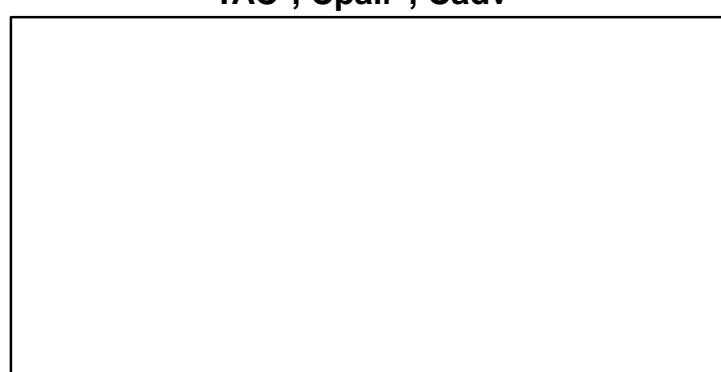
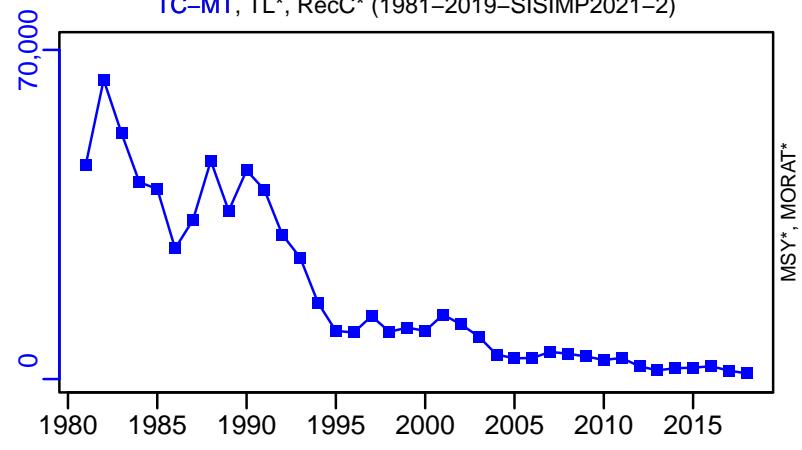


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	--- Lim BRP	* No Data

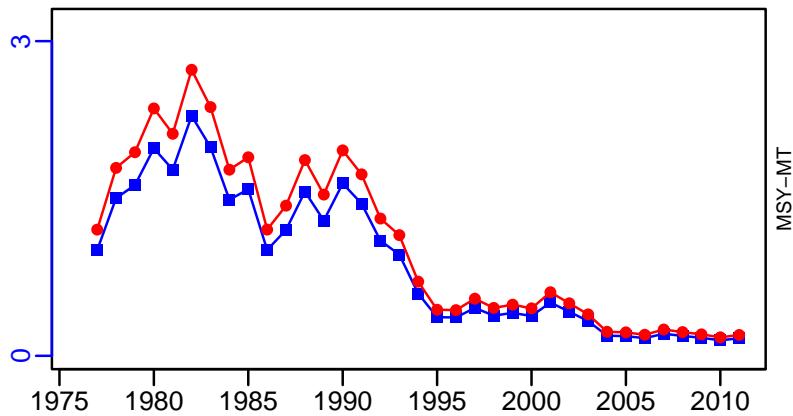
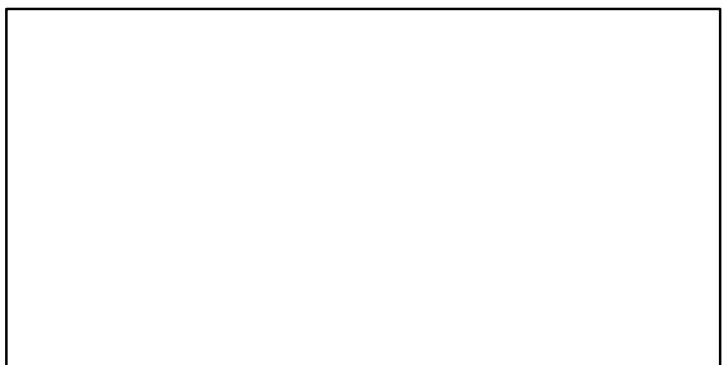
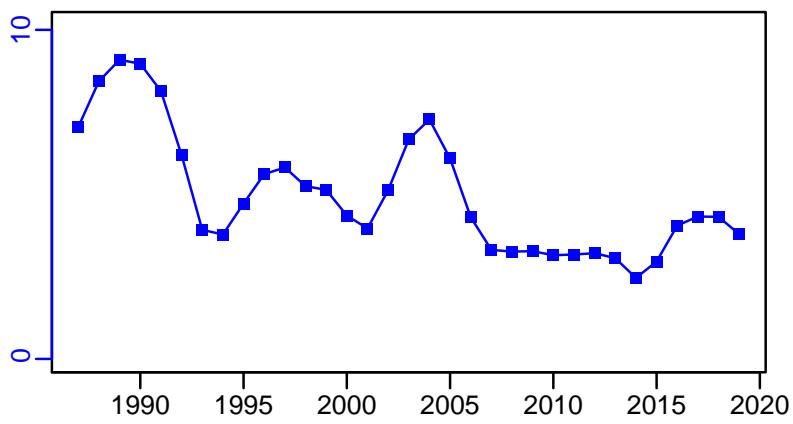
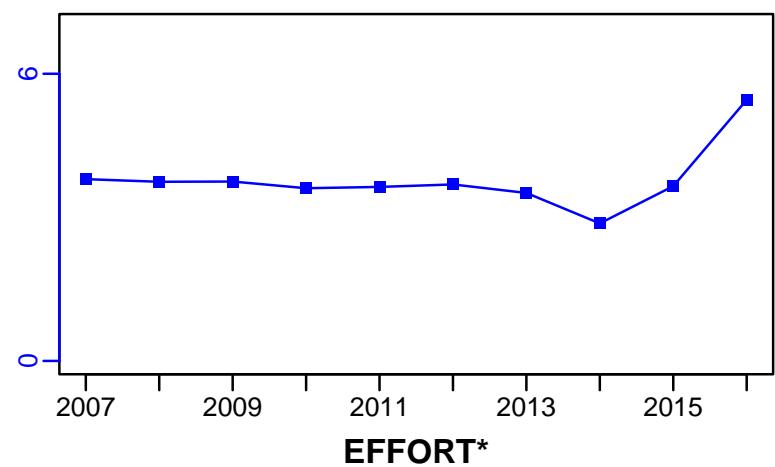
Atlantic cod Georges Bank [CODGB]

TC-MT, TL\*, RecC\* (1981–2019–SISIMP2021–2)

TAC\*, Cpair\*, Cadv\*



CPUE-index (1981–2019–SISIMP2021–2)



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

## Atlantic cod Gulf of Maine [CODGOM]

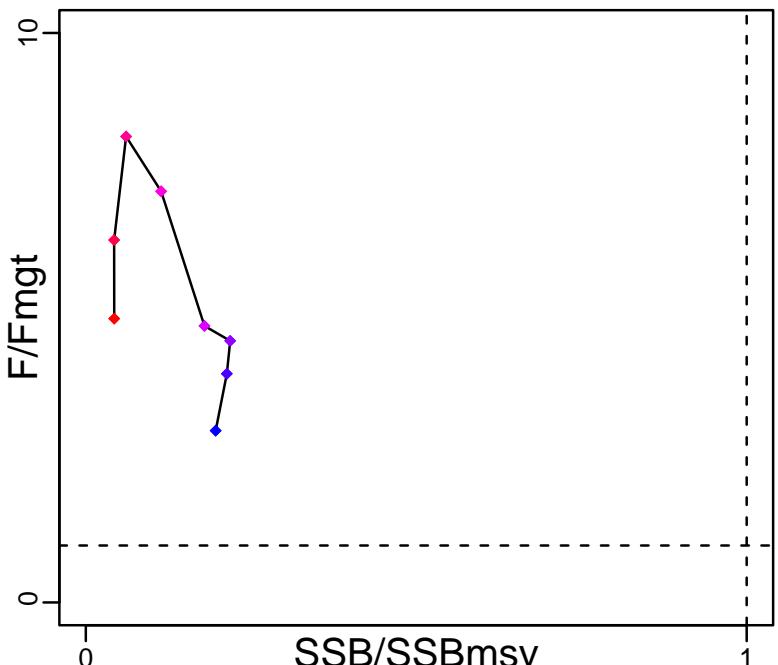
<b>Metadata</b>	
<b>Scientific Name</b>	Gadus morhua
<b>Current Assess ID</b>	NEFSC-CODGOM-1982-2018-SISIMP2021-2
<b>Area</b>	Gulf of Maine
<b>Management Authority</b>	National Marine Fisheries Service, US national management
<b>Assessor</b>	Northeast Fisheries Science Center
<b>Asmts in RAM</b>	2011, 2016, 2018, 2014

<b>Reference Points</b>			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	SSBmsy-MT	2014	59,045
<b>Fmsy</b>	Fmsy-1/yr	2011	0.18
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2014	59,045
<b>Fmgt</b>	Fmgt-1/yr	2014	0.187
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-MT	2014	10,043
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

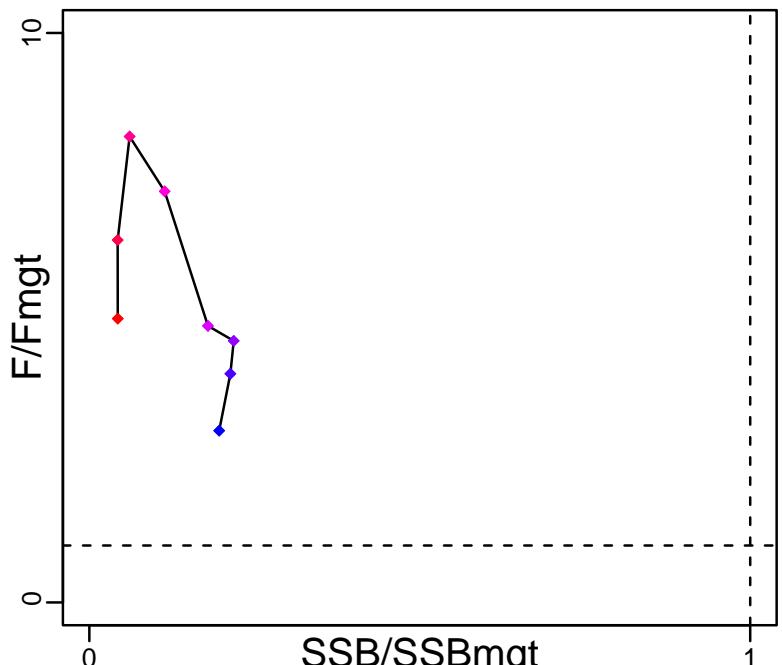
<b>Time Series</b>					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	-	-	-	-	-
<b>SSB</b>	SSB-MT	2014	2540	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2014	3,210,000	-	1
<b>F</b>	F-1/yr	2014	0.932	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2018	753		
<b>TL</b>	TL-MT	2014	832		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2014	0.043		
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2011	4.878		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2014	0.043		
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2014	4.984		
<b>ER/ERmgt</b>	-	-	-		

**Atlantic cod Gulf of Maine [CODGOM]**

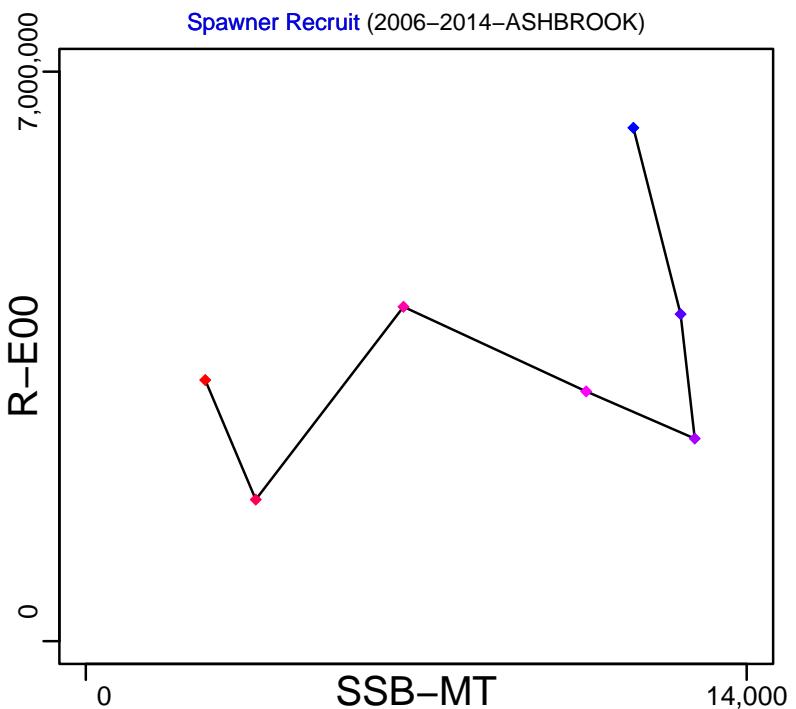
Kobe MSYpref (2006–2014–ASHBROOK)



Kobe MGTpref (2006–2014–ASHBROOK)



Spawner Recruit (2006–2014–ASHBROOK)



Production\*



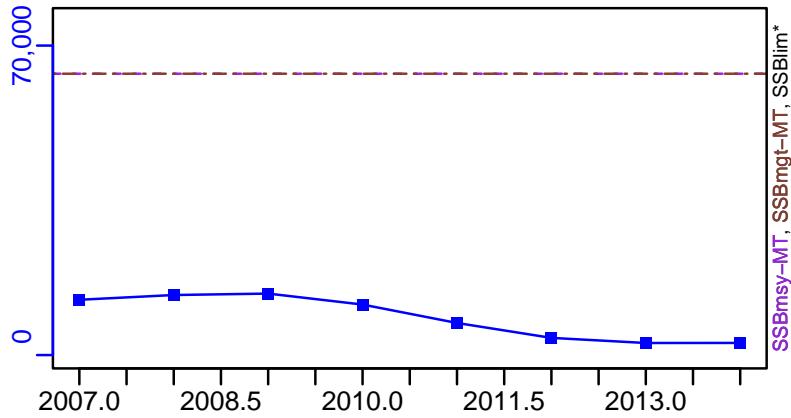
◆ Start Year   ◆ End Year   \* No Data

Atlantic cod Gulf of Maine [CODGOM]

**TB\***



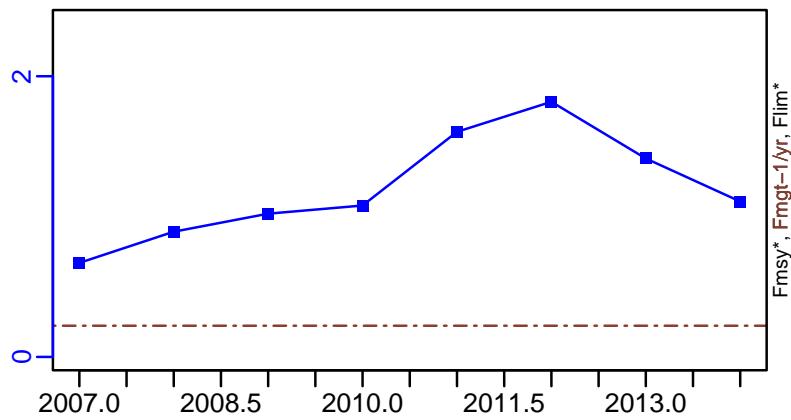
SSB-MT (2006–2014–ASHBROOK)



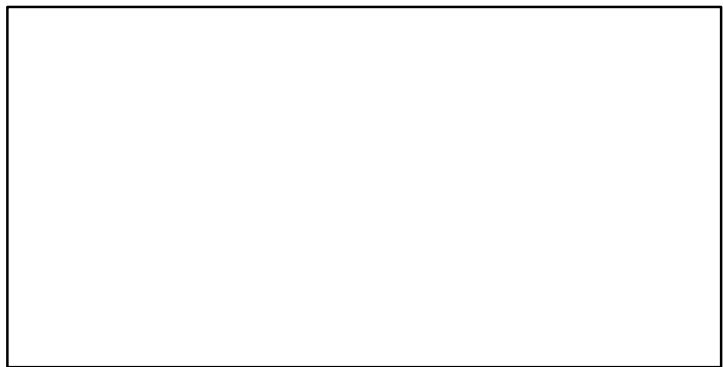
**TN \***



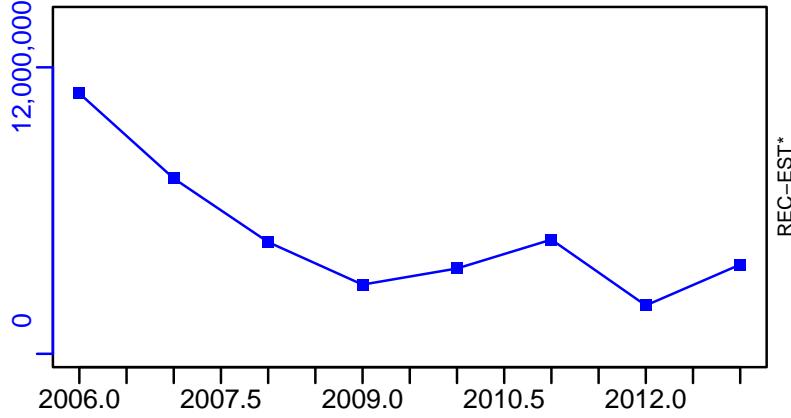
F-1/yr (2006–2014–ASHBROOK)



**ER\***



R-E00 (2006–2014–ASHBROOK)

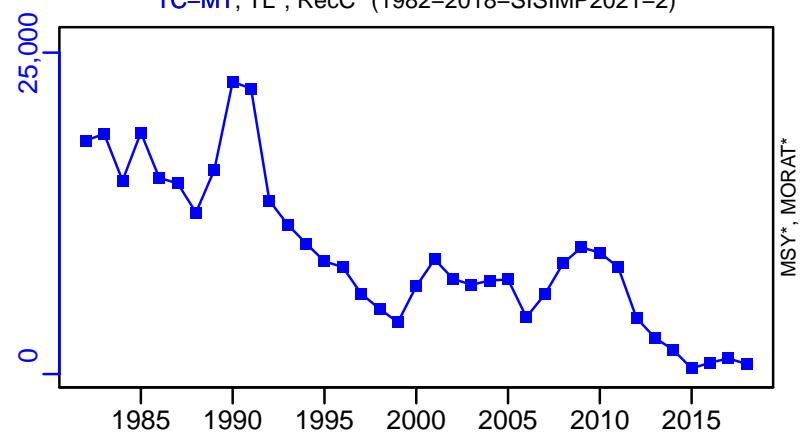


- Listed time series    - - - Target BRP    — Rec-Est
- - - MSY-based BRP    - - Lim BRP    \* No Data

**Atlantic cod Gulf of Maine [CODGOM]**

TC-MT, TL\*, RecC\* (1982–2018–SISIMP2021–2)

TAC\*, Cpair\*, Cadv\*



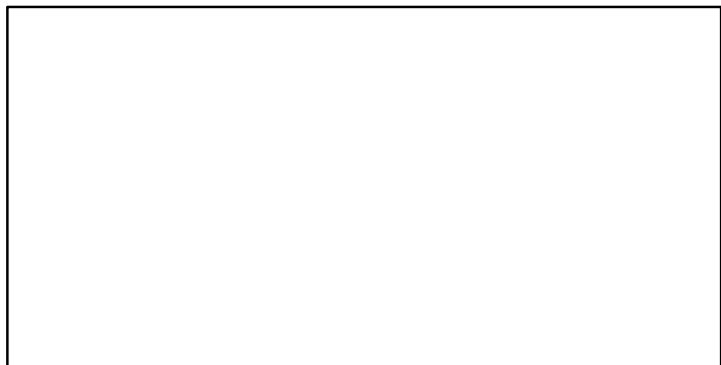
**survB\***



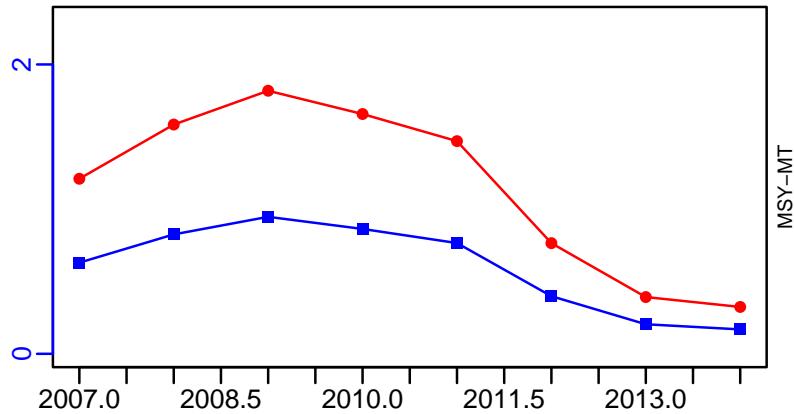
**CPUE\***



**EFFORT\***



TC-MT/MSY-MT, CdivMEANC-ratio, (2006–2014–ASHBROOK)



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

## Atlantic cod Iceland Grounds [CODICE]

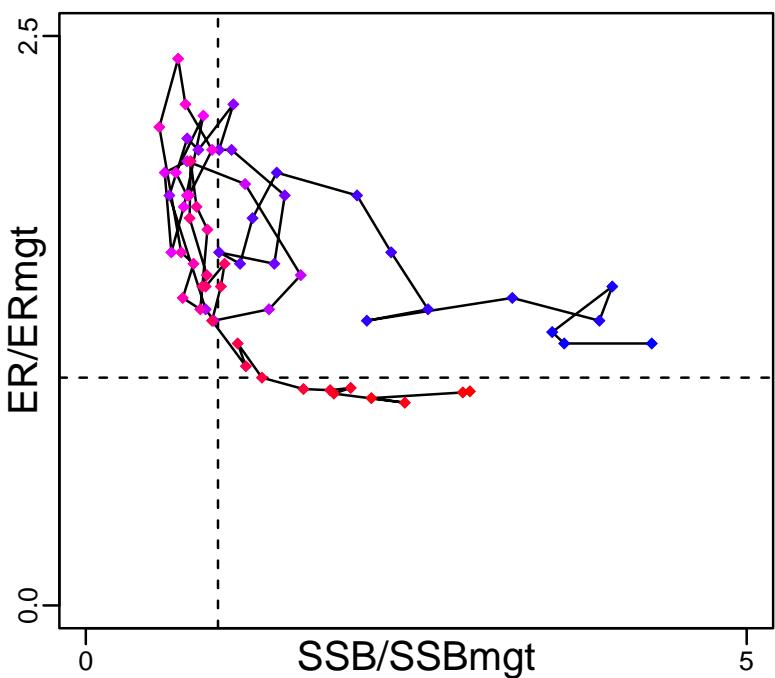
<b>Metadata</b>	
<b>Scientific Name</b>	Gadus morhua
<b>Current Assess ID</b>	NWWG-CODICE-1955-2023-ICESIMP2021-2
<b>Area</b>	Iceland Grounds
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	North-Western Working Group
<b>Asmts in RAM</b>	2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2023

<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-ratio	2018	0.2
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2019	220,000
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	ERmgt-ratio	2019	0.2
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2023	125,000
<b>Flim</b>	Flim-1/yr	2018	0.74
<b>ERlim</b>	-	-	-

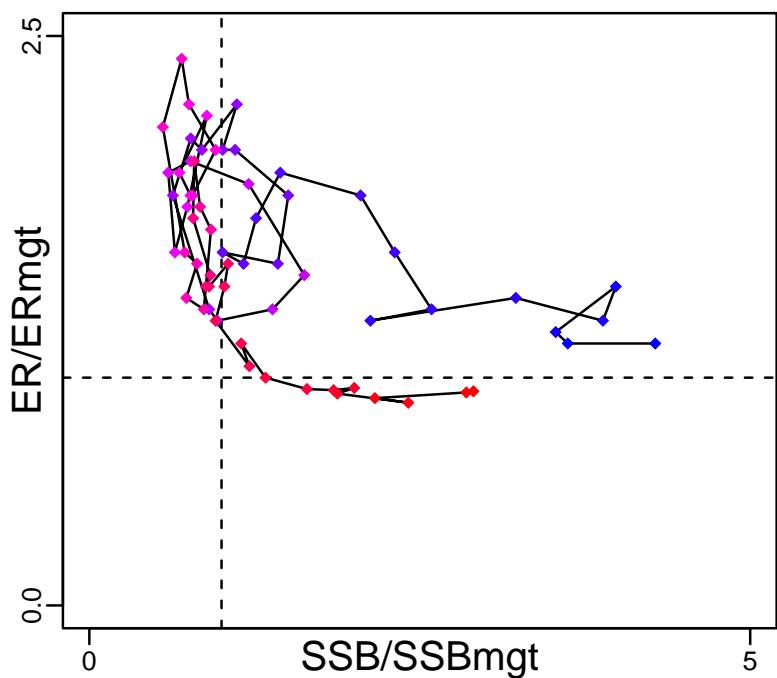
<b>Time Series</b>						
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Curr Value</b>	<b>Sex</b>	<b>Age</b>	
<b>TB</b>	TB-MT	2014	1,160,000	Both	-	
<b>SSB</b>	SSB-MT	2023	361,000	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2023	163,000	-	3	
<b>F</b>	F-1/yr	2019	0.27	-	5 to 10	
<b>ER</b>	ER-ratio	2023	0.259	-	-	
<b>TC</b>	TC-MT	2023	270,000			
<b>TL</b>	TL-MT	2023	270,000			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	-	-	-			
<b>ER/ERmsy</b>	ER-ratio/ERmsy-ratio	2018	0.91			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2019	2.805			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

### Atlantic cod Iceland Grounds [CODICE]

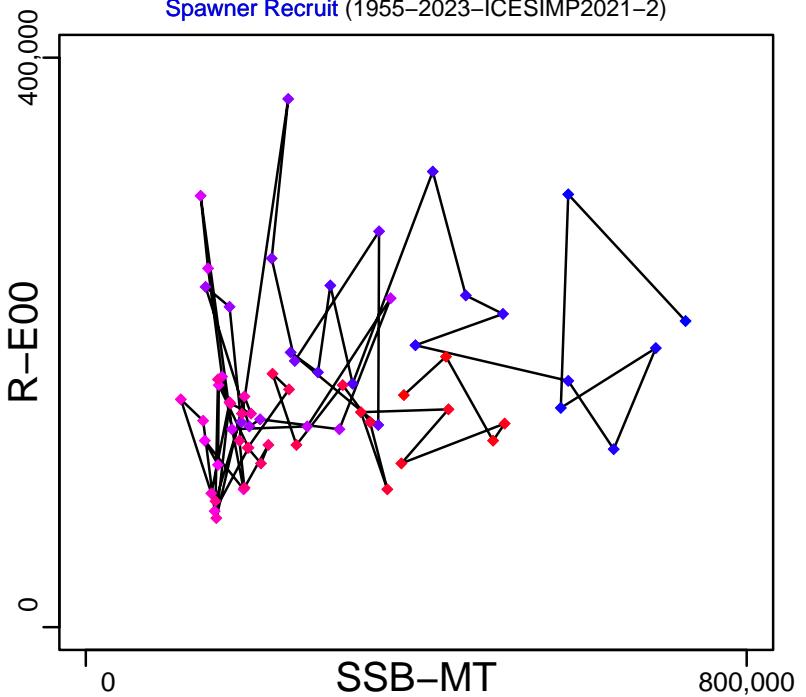
Kobe MSYpref (1952–2019–ICESIMP2021)



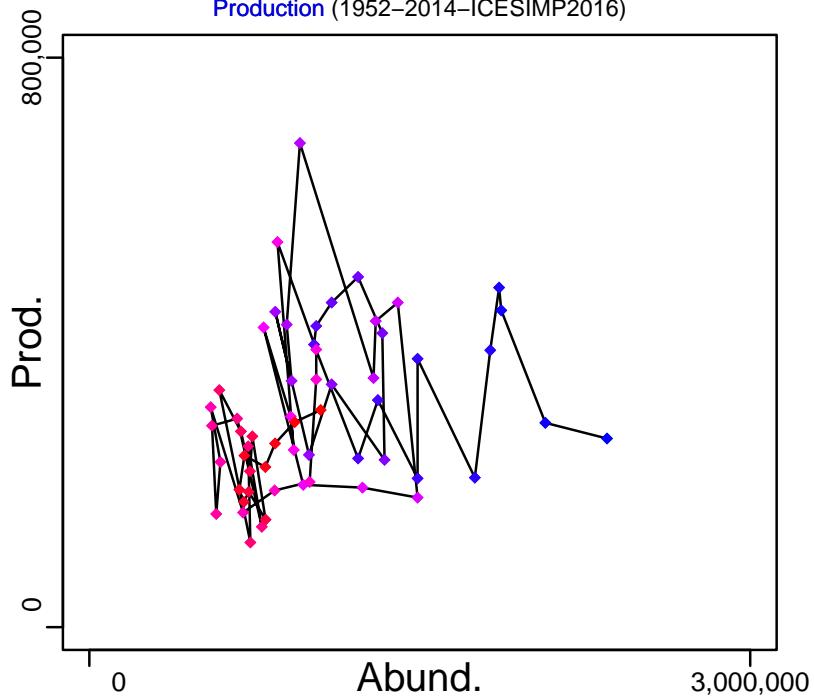
Kobe MGTpref (1952–2019–ICESIMP2021)



Spawner Recruit (1955–2023–ICESIMP2021-2)



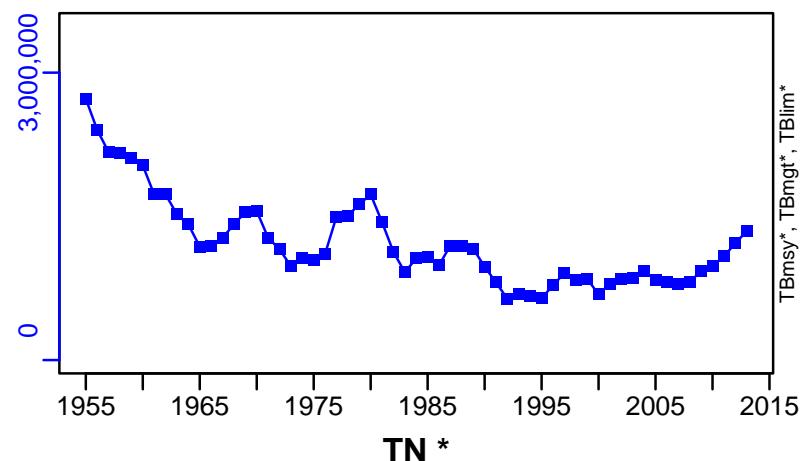
Production (1952–2014–ICESIMP2016)



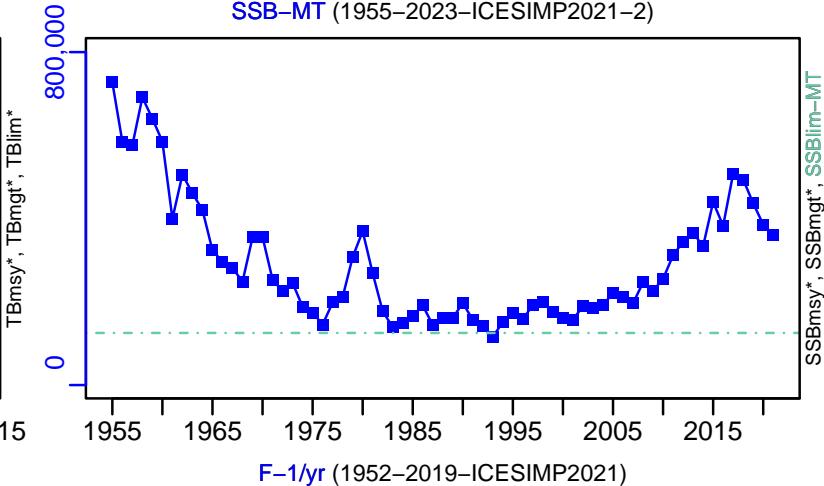
◆ Start Year   ◆ End Year   \* No Data

### Atlantic cod Iceland Grounds [CODICE]

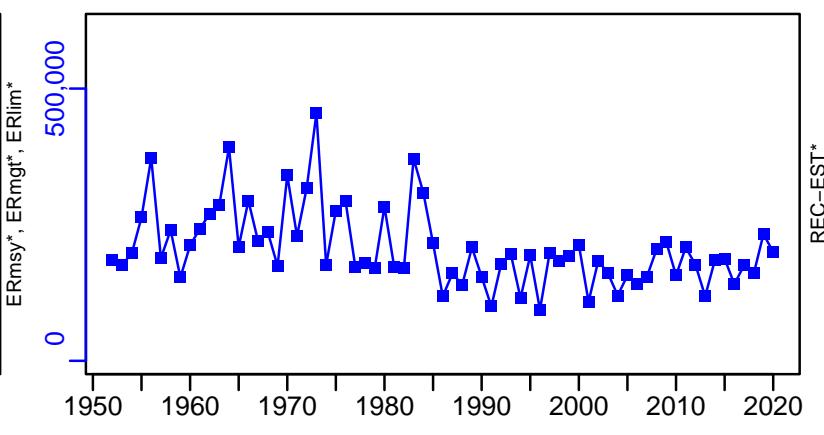
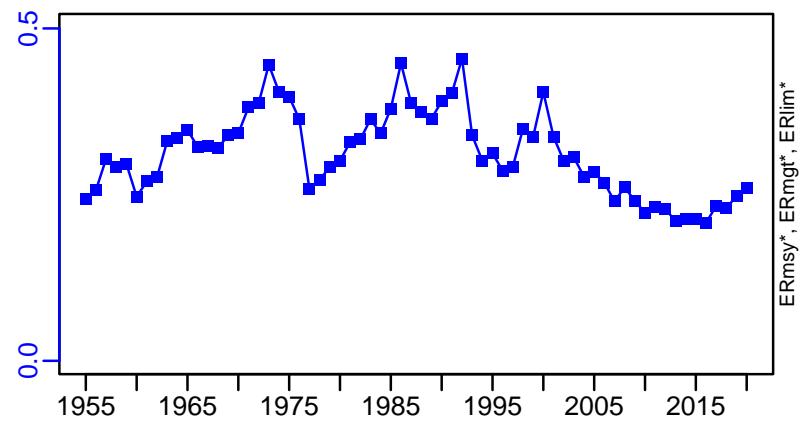
**TB-MT** (1952–2014–ICESIMP2016)



**SSB-MT** (1955–2023–ICESIMP2021–2)



**ER-ratio** (1955–2023–ICESIMP2021–2)

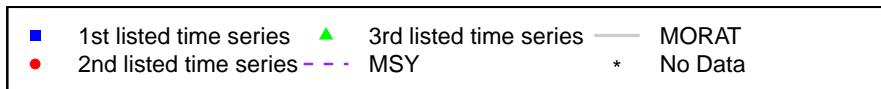
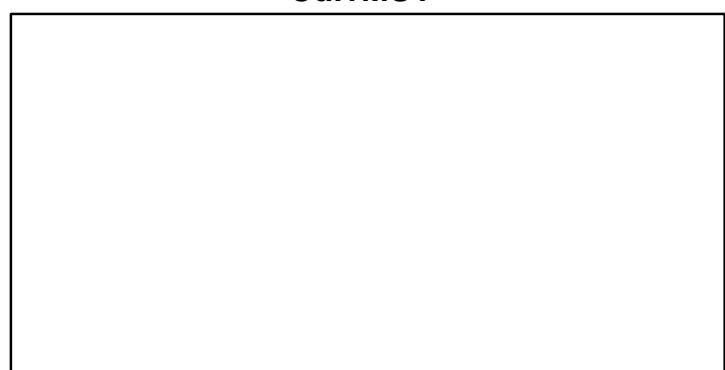
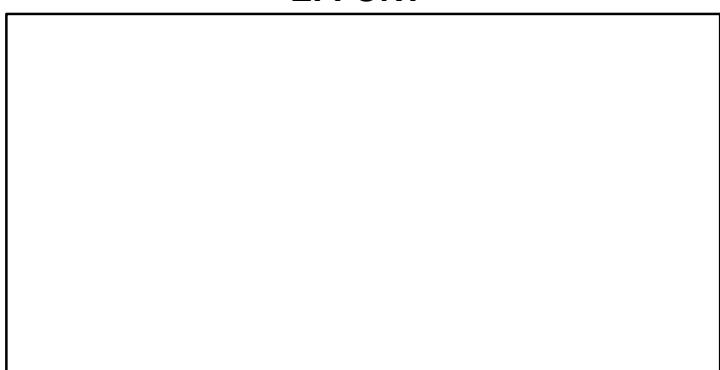
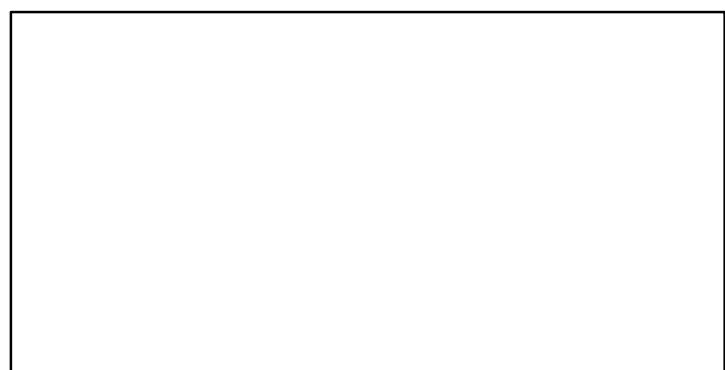
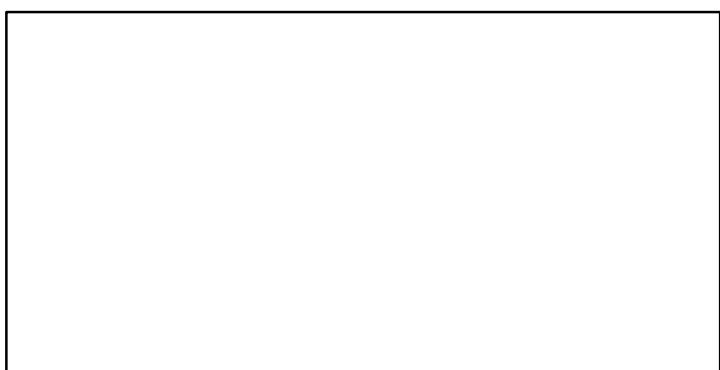
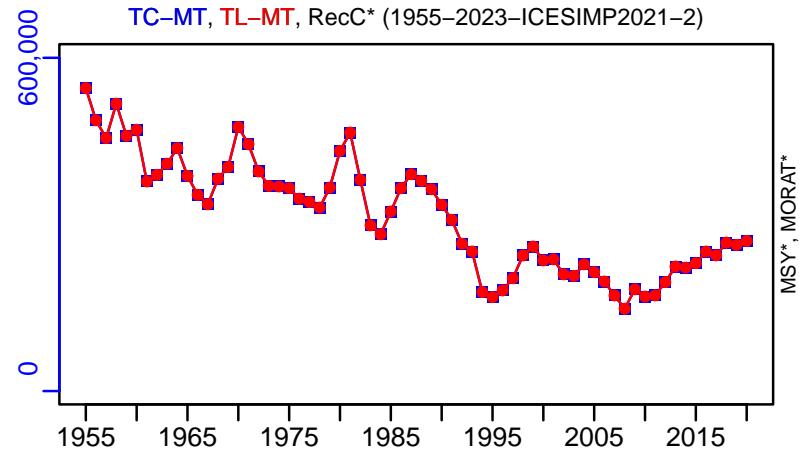


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| - - MSY-based BRP    | --- Lim BRP  | * No Data |

Atlantic cod Iceland Grounds [CODICE]

TC-MT, TL-MT, RecC\* (1955–2023–ICESIMP2021–2)

TAC\*, Cpair\*, Cadv\*



### Atlantic cod ICES 3a(west)-4-7d [CODIIIaW-IV-VIId]

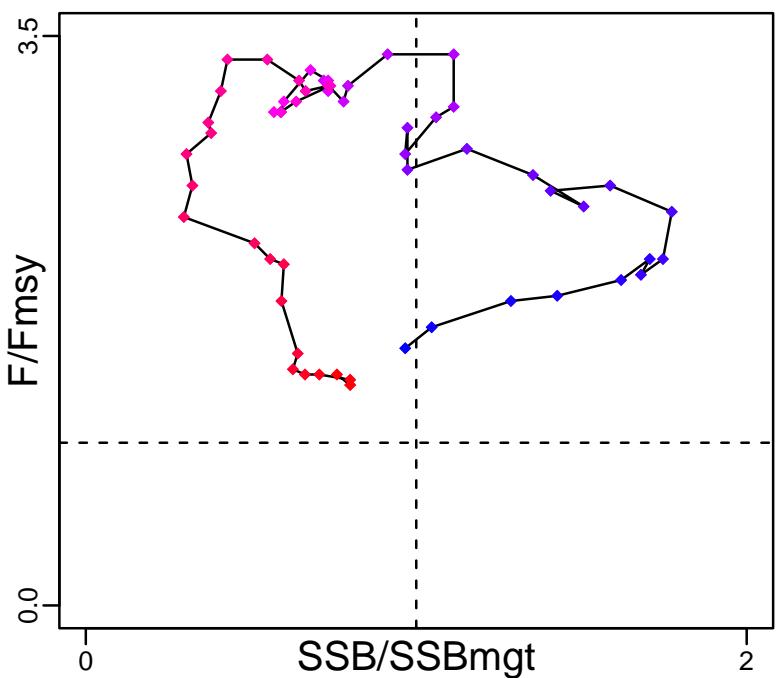
<b>Metadata</b>	
<b>Scientific Name</b>	Gadus morhua
<b>Current Assess ID</b>	WGNSSK-CODIIIaW-IV-VIId-1962-2022-ICESIMP2024
<b>Area</b>	ICES 3a(west)-4-7d
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak
<b>Asmts in RAM</b>	2011, 2013, 2014, 2015, 2016, 2016, 2017, 2018, 2019, 2022, 2020, 2021

<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2022	0.28
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2018	150,000
<b>Fmgt</b>	Fmgt-1/yr	2022	0.28
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2022	69,841
<b>Flim</b>	Flim-1/yr	2022	0.58
<b>ERlim</b>	-	-	-

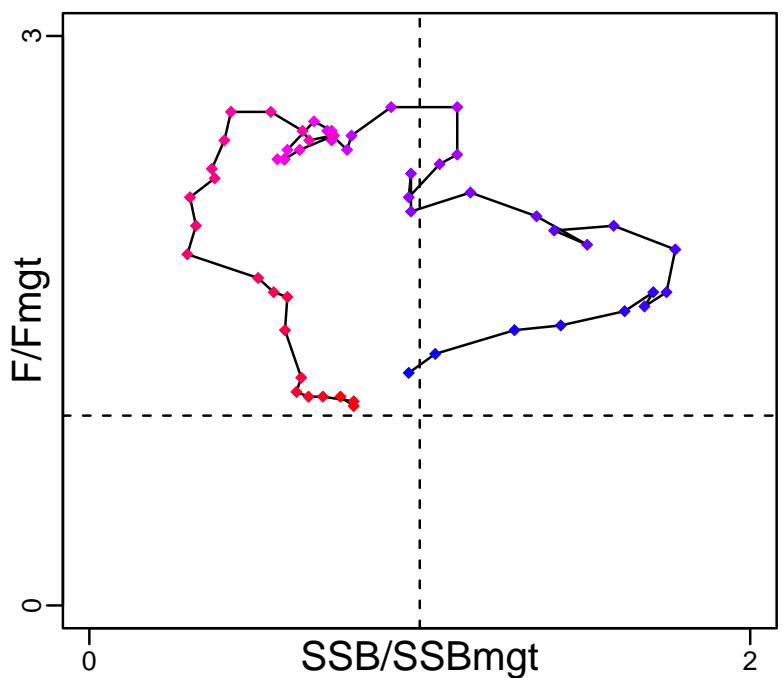
<b>Time Series</b>						
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Curr Value</b>	<b>Sex</b>	<b>Age</b>	
<b>TB</b>	TB-MT	2022	120,590	-	-	
<b>SSB</b>	SSB-MT	2022	54,148	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2022	222,820	-	1	
<b>F</b>	F-1/yr	2022	0.247	-	2 to 4	
<b>ER</b>	ER-calc-ratio	2022	0.192	-	-	
<b>TC</b>	TC-MT	2022	18,403			
<b>TL</b>	TL-MT	2022	14,660			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2022	0.882			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2018	0.787			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2022	0.882			
<b>ER/ERmgt</b>	-	-	-			

Atlantic cod ICES 3a(west)–4–7d [CODIIIaW–IV–VIId]

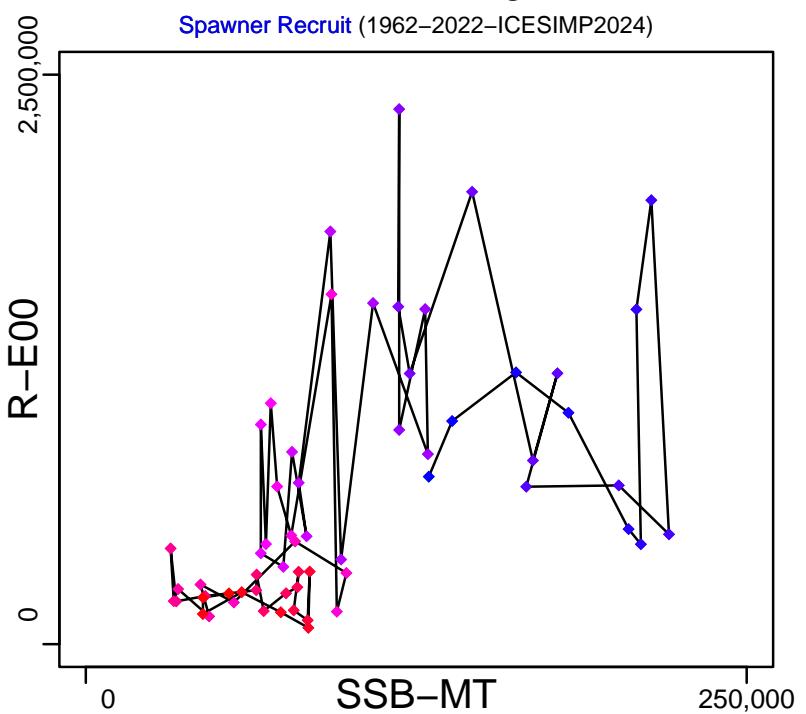
Kobe MSYpref (1962–2018–ICESIMP2018)



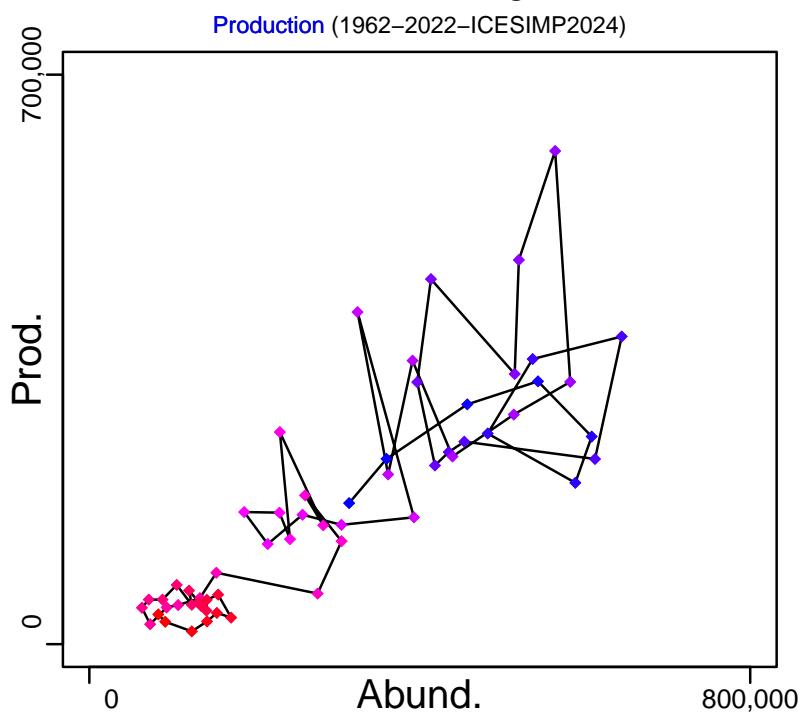
Kobe MGTpref (1962–2018–ICESIMP2018)



Spawner Recruit (1962–2022–ICESIMP2024)



Production (1962–2022–ICESIMP2024)

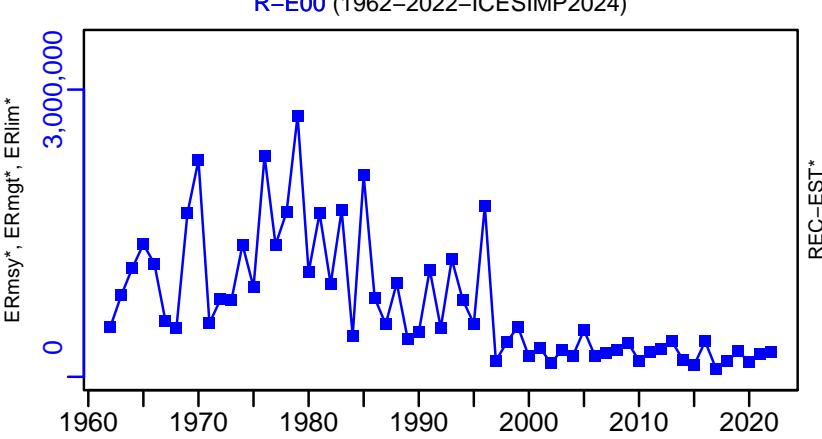
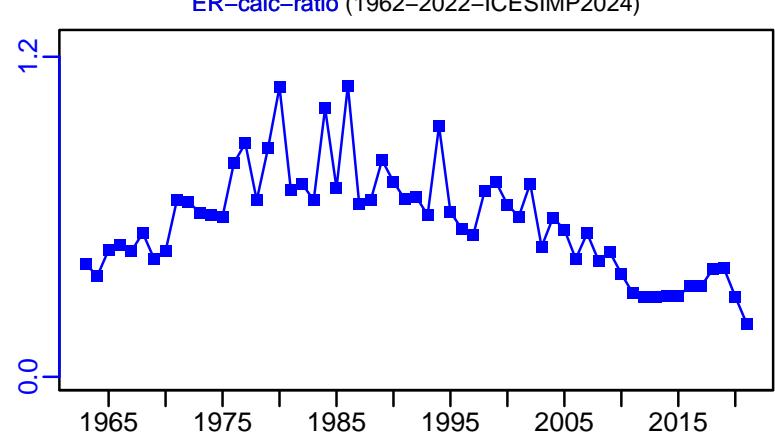
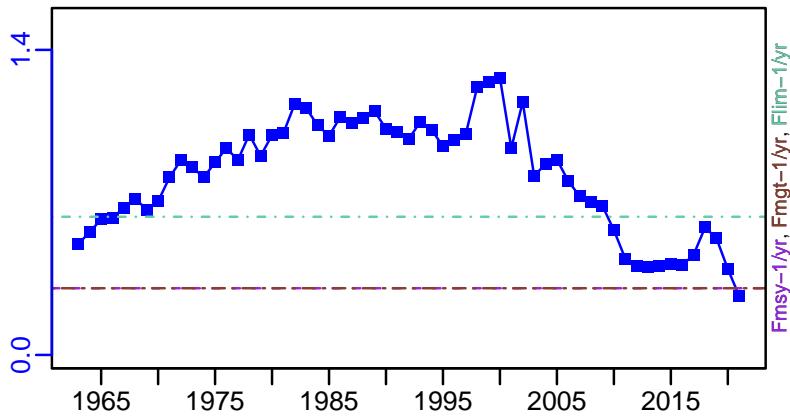
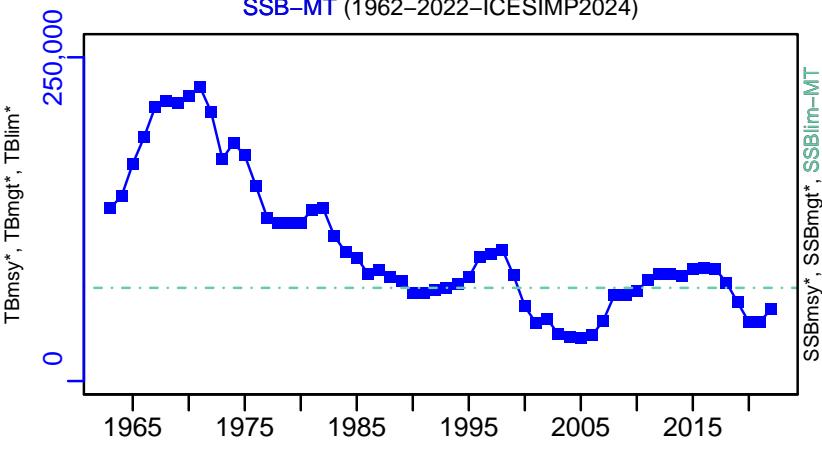
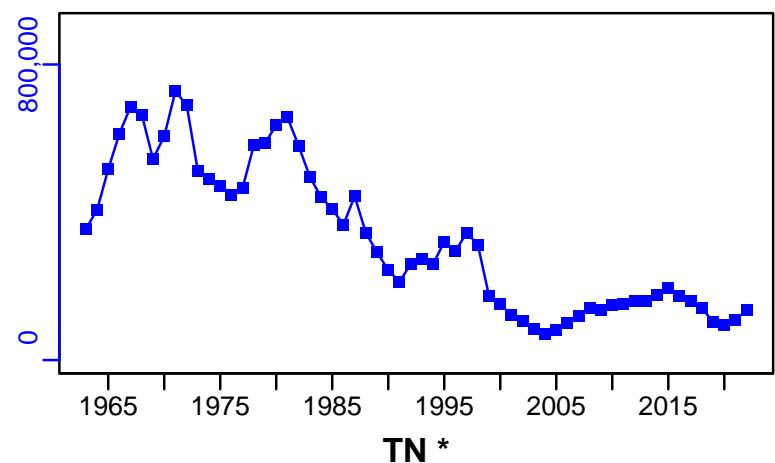


◆ Start Year	◆ End Year	*	No Data
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Atlantic cod ICES 3a(west)–4–7d [CODIIIaW–IV–VIId]

TB-MT (1962–2022–ICESIMP2024)

SSB-MT (1962–2022–ICESIMP2024)

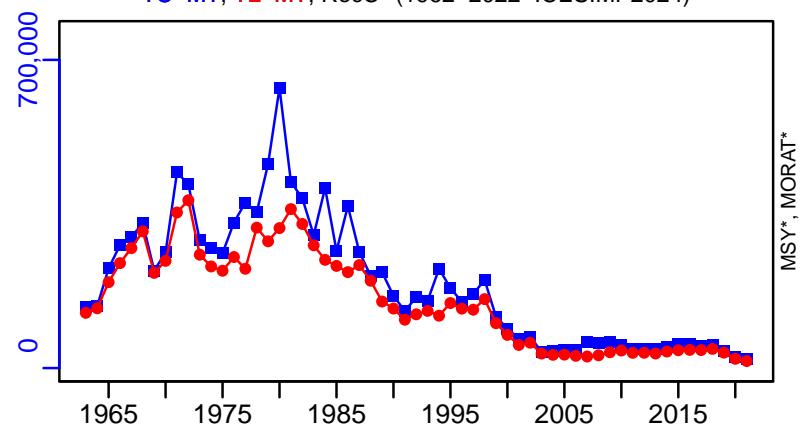


■ Listed time series	— Target BRP	— Rec-Est
— MSY-based BRP	--- Lim BRP	* No Data

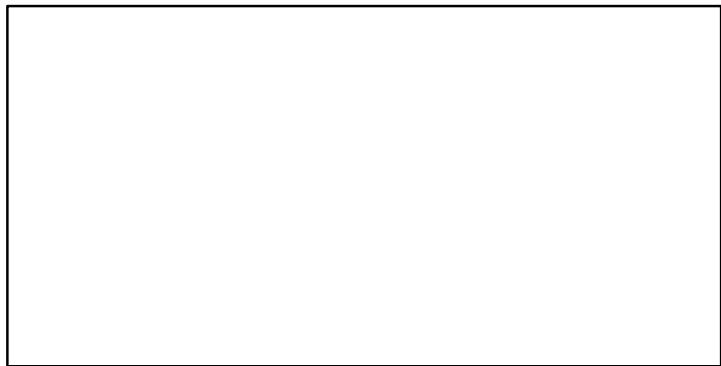
Atlantic cod ICES 3a(west)–4–7d [CODIIIaW–IV–VIId]

TC–MT, TL–MT, RecC\* (1962–2022–ICESIMP2024)

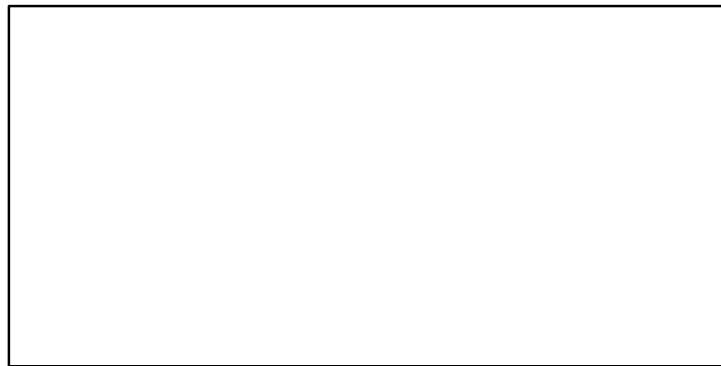
TAC\*, Cpair\*, Cadv\*



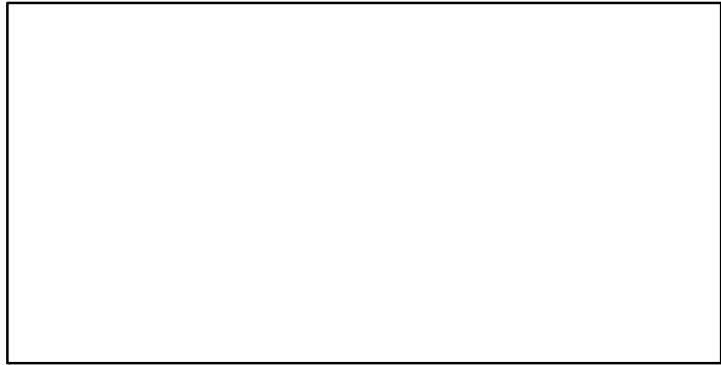
survB\*



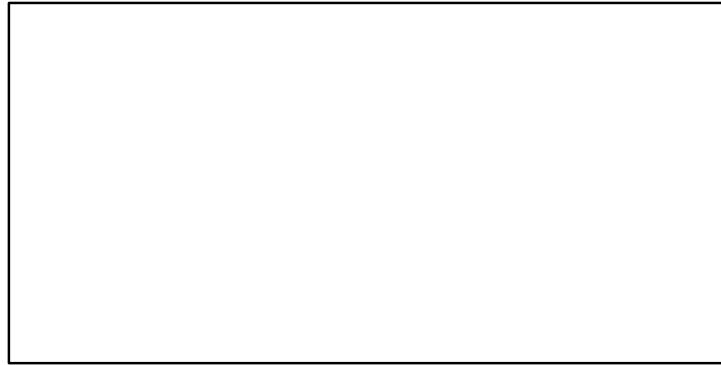
CPUE\*



EFFORT\*



CdivMSY\*



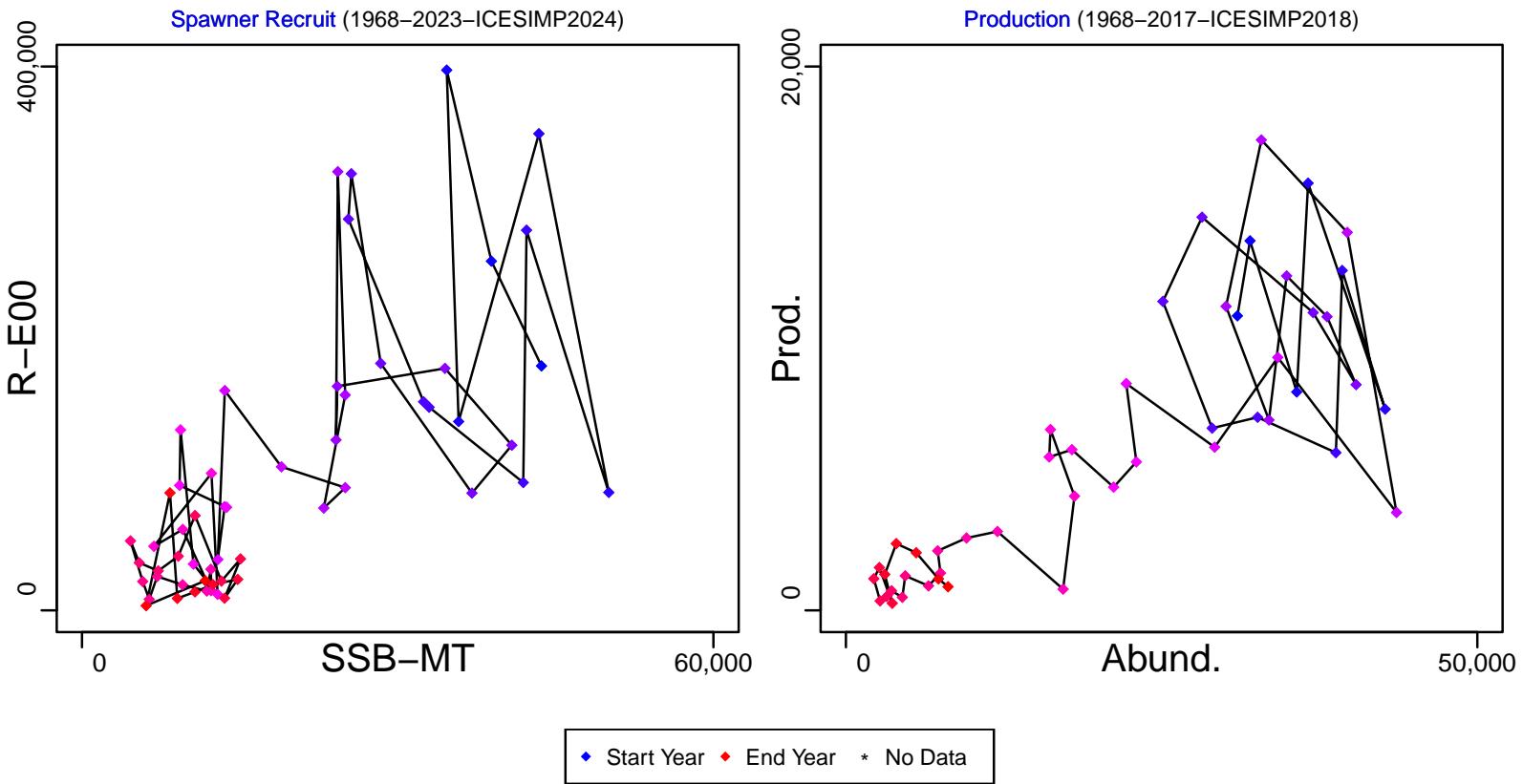
- |                          |                          |           |
|--------------------------|--------------------------|-----------|
| ■ 1st listed time series | ▲ 3rd listed time series | — MORAT   |
| ● 2nd listed time series | - - MSY                  | * No Data |

## Atlantic cod Irish Sea [CODIS]

<b>Metadata</b>	
<b>Scientific Name</b>	Gadus morhua
<b>Current Assess ID</b>	WGCSE-CODIS-1968-2023-ICESIMP2024
<b>Area</b>	Irish Sea
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on Celtic Seas Ecosystems
<b>Asmts in RAM</b>	2010, 2013, 2014, 2015, 2016, 2017, 2018, 2020, 2023

<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2023	0.174
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	Fmgt-1/yr	2023	0.174
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	M-1/yr	2010	0.2
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2023	9364
<b>Flim</b>	Flim-1/yr	2023	0.33
<b>ERlim</b>	-	-	-

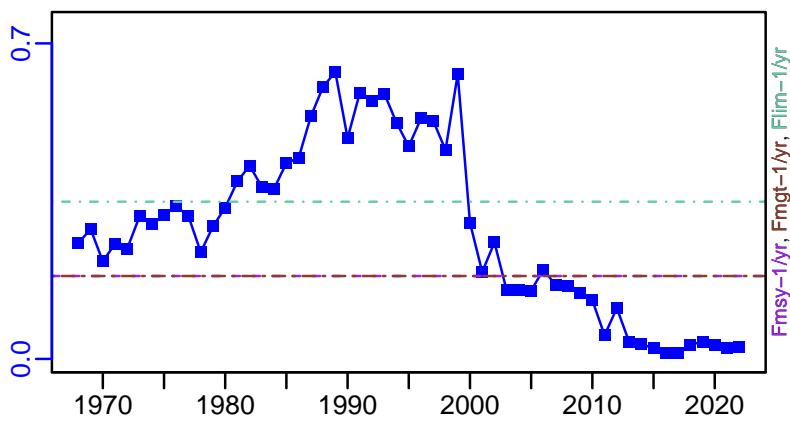
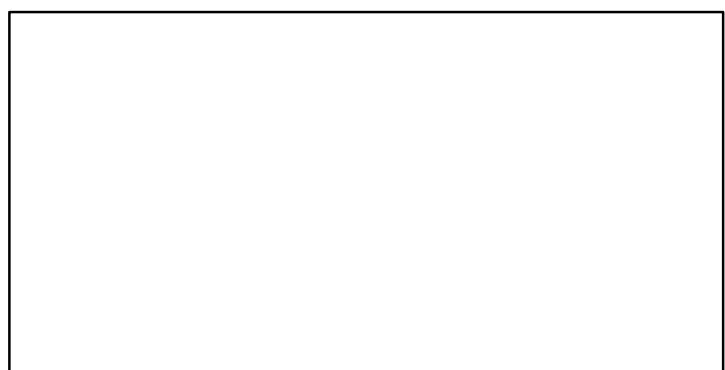
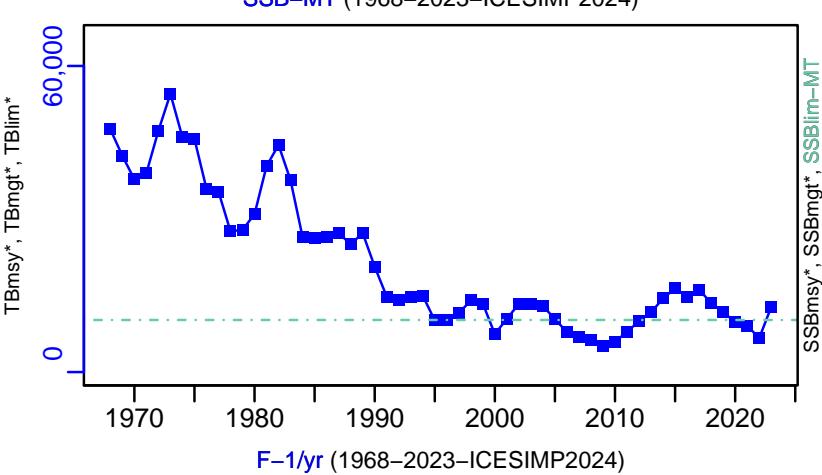
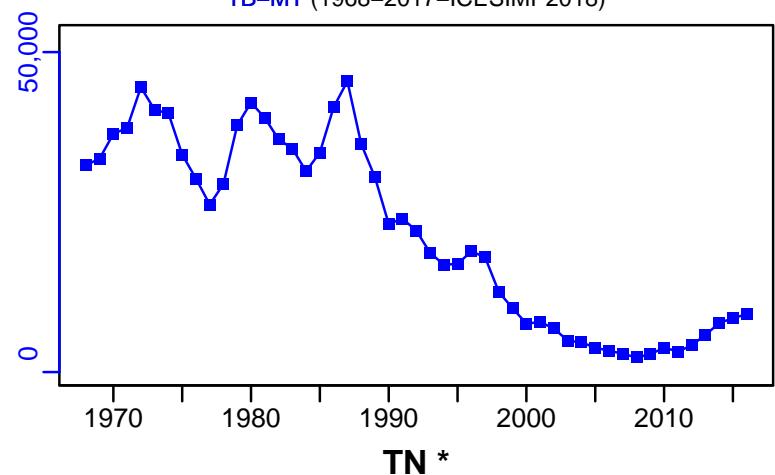
<b>Time Series</b>					
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Curr Value</b>	<b>Sex</b>	<b>Age</b>
<b>TB</b>	TB-MT	2017	8650	Both	-
<b>SSB</b>	SSB-MT	2023	11,714	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2023	21,811	-	0
<b>F</b>	F-1/yr	2023	0.024	-	2 to 4
<b>ER</b>	ER-calc-ratio	2017	0.016	-	-
<b>TC</b>	TC-MT	2023	125		
<b>TL</b>	TL-MT	2023	98		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2023	0.141		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2023	0.141		
<b>ER/ERmgt</b>	-	-	-		

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

### Atlantic cod Irish Sea [CODIS]

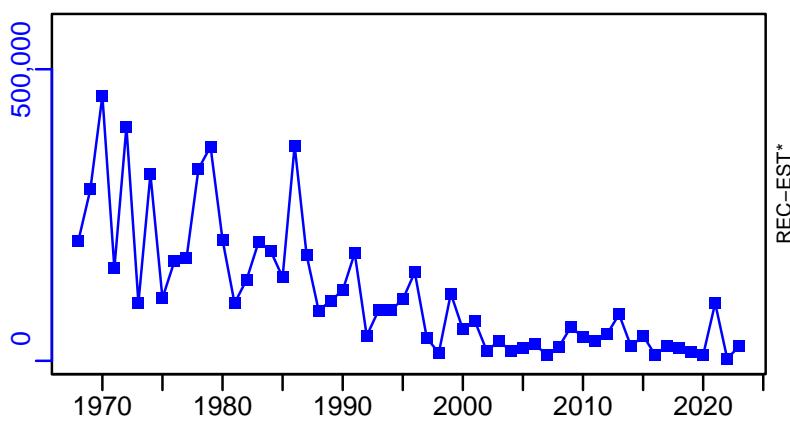
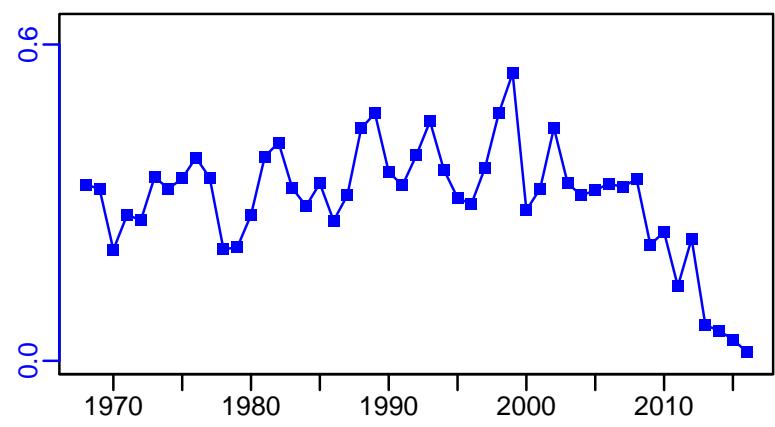
**TB-MT** (1968–2017–ICESIMP2018)

**SSB-MT** (1968–2023–ICESIMP2024)



**ER-calc-ratio** (1968–2017–ICESIMP2018)

**R-E00** (1968–2023–ICESIMP2024)

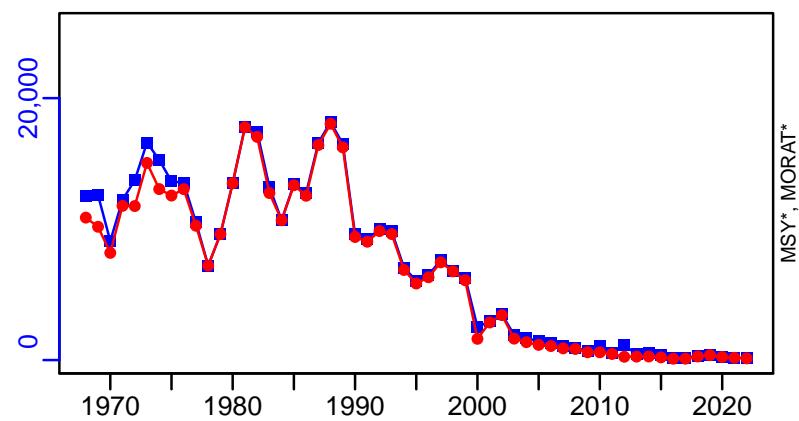


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	- - Lim BRP	* No Data

Atlantic cod Irish Sea [CODIS]

TC-MT, TL-MT, RecC\* (1968–2023–ICESIMP2024)

TAC\*, Cpair\*, Cadv\*



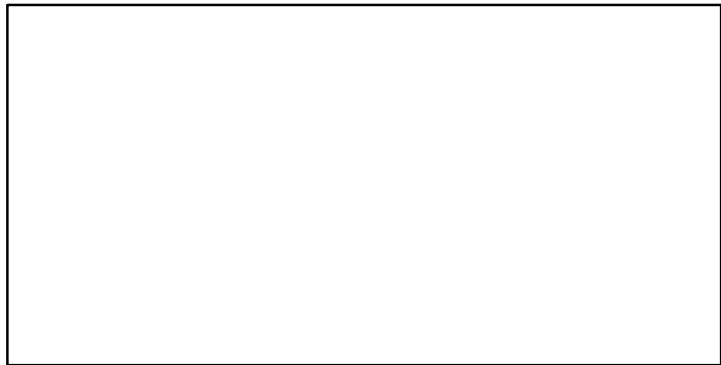
survB\*



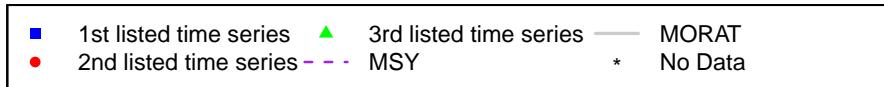
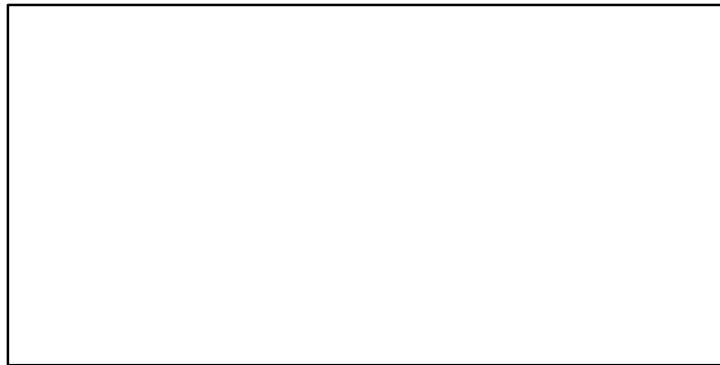
CPUE\*



EFFORT\*



CdivMSY\*



## Atlantic cod Kattegat [CODKAT]

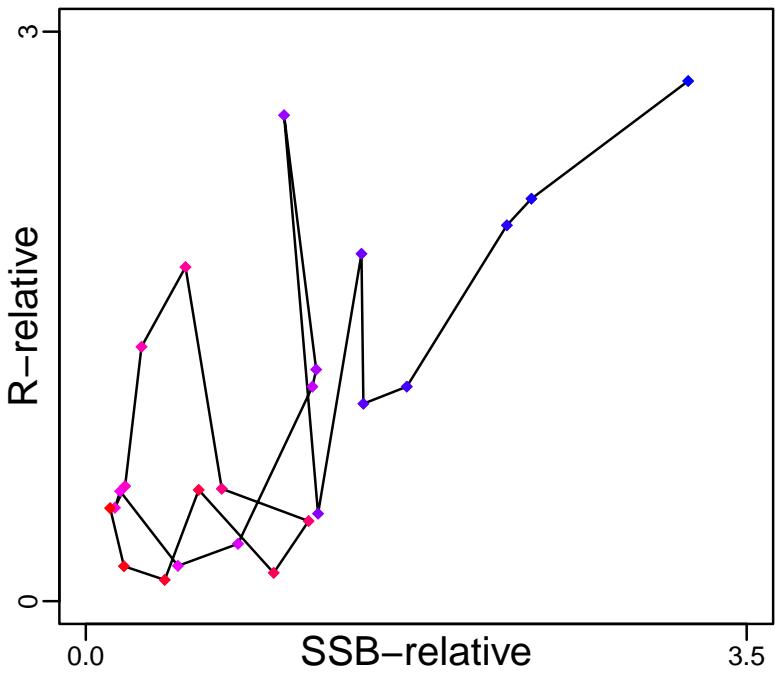
<b>Metadata</b>	
<b>Scientific Name</b>	Gadus morhua
<b>Current Assess ID</b>	WGBFAS-CODKAT-1997-2020-ICESIMP2021-2
<b>Area</b>	Kattegat
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Baltic Fisheries Assessment Working Group
<b>Asmts in RAM</b>	2012, 2015, 2016, 2017, 2018, 2019, 2020

<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<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>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2012	6400
<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-relative	2018	0.535	Both	-
<b>SSB</b>	SSB-relative	2020	0.129	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-relative	2020	0.49	-	-
<b>F</b>	F-relative	2019	1.079	-	-
<b>ER</b>	ER-ratio	2012	0.101	-	-
<b>TC</b>	TC-MT	2020	123		
<b>TL</b>	TL-MT	2020	83		
<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 (1997–2020–ICESIMP2021–2)

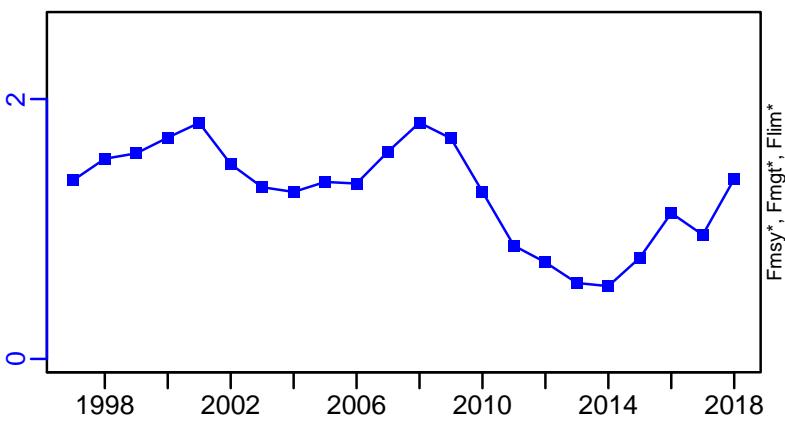
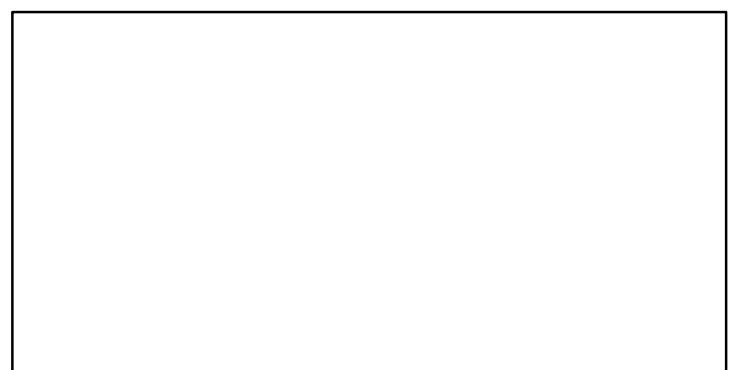
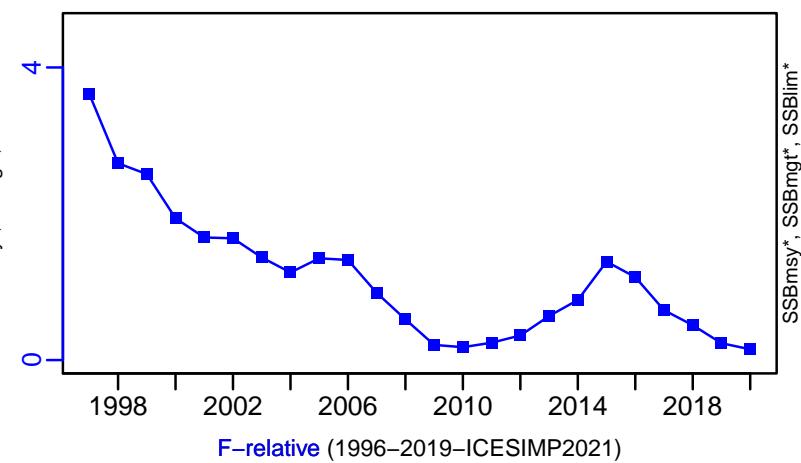
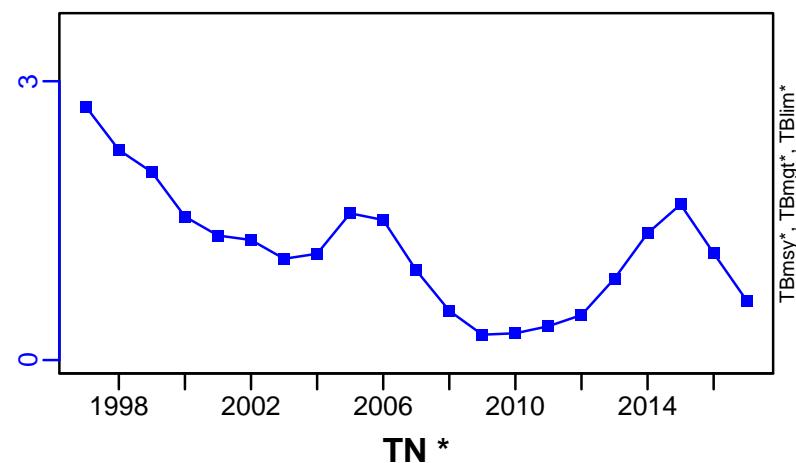
**Production\***

◆ Start Year   ◆ End Year   \* No Data

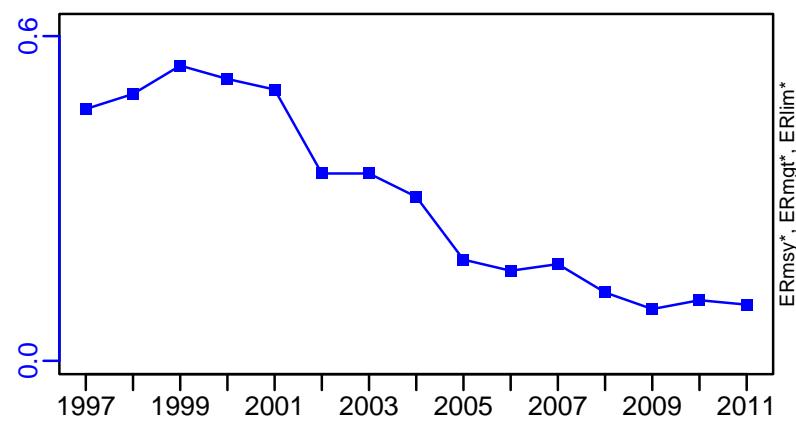
### Atlantic cod Kattegat [CODKAT]

TB-relative (1996–2018–ICESIMP2018)

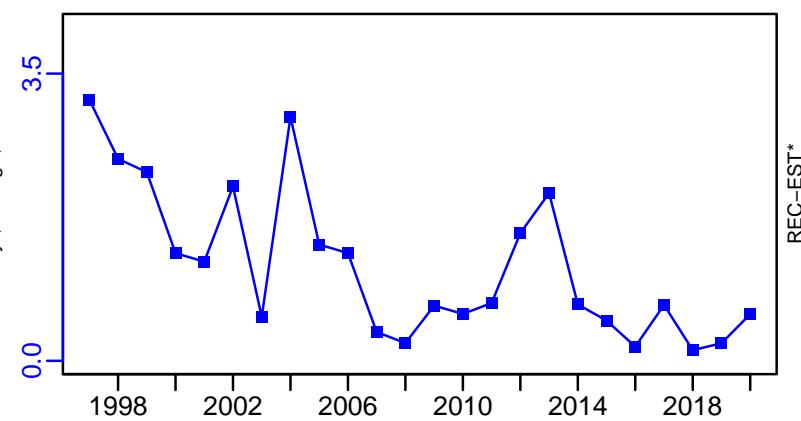
SSB-relative (1997–2020–ICESIMP2021–2)



ER-ratio (1971–2012–CHING)



R-relative (1997–2020–ICESIMP2021–2)

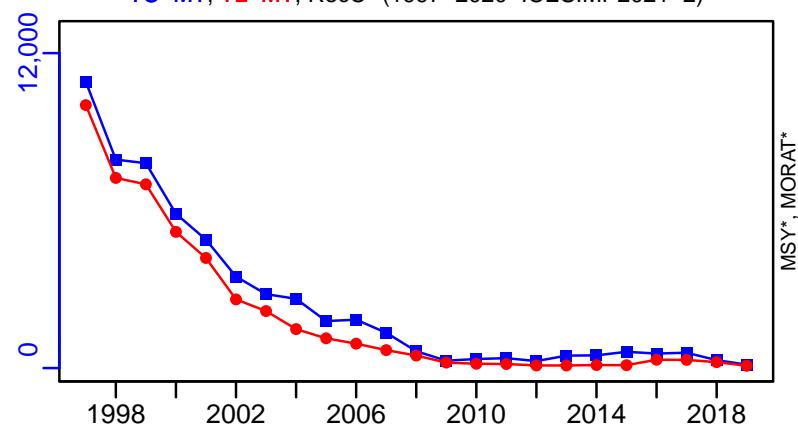


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	·· Lim BRP	* No Data

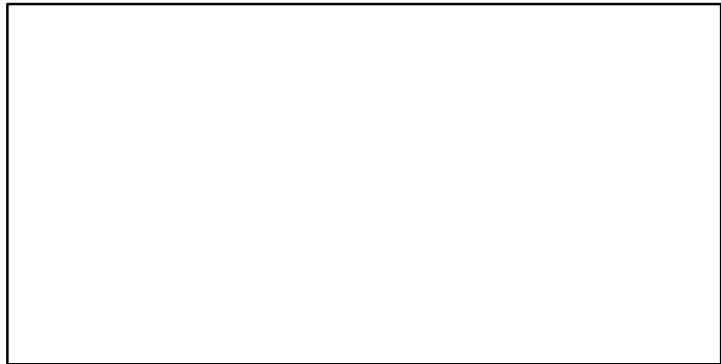
### Atlantic cod Kattegat [CODKAT]

TC-MT, TL-MT, RecC\* (1997–2020–ICESIMP2021–2)

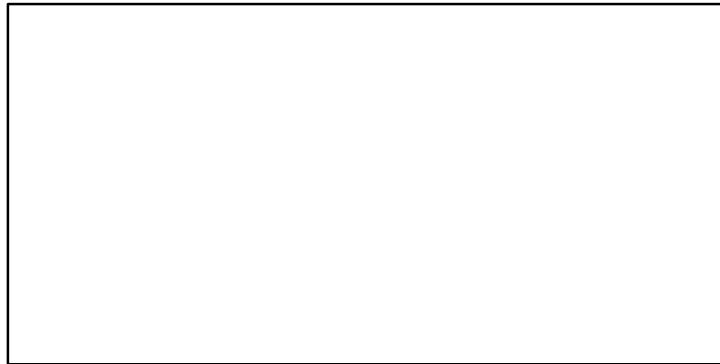
TAC\*, Cpair\*, Cadv\*



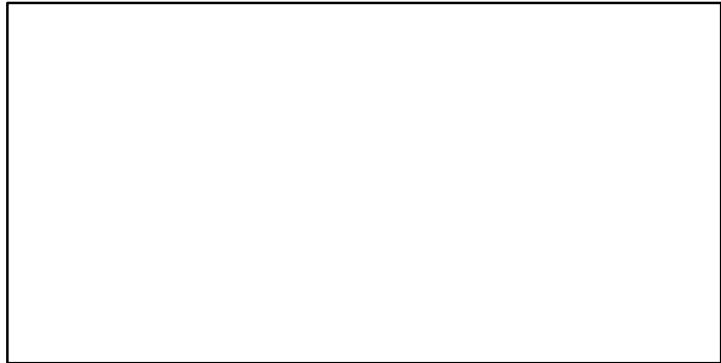
survB\*



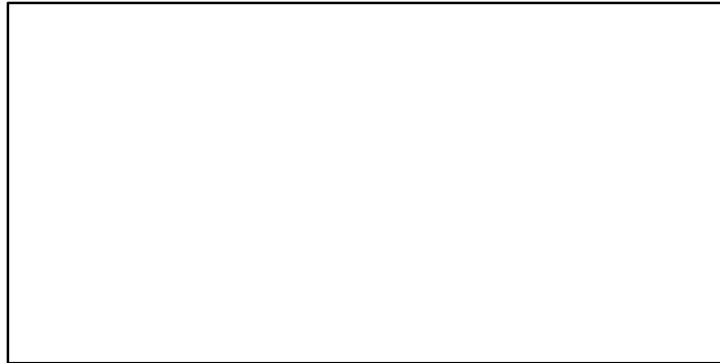
CPUE\*



EFFORT\*



CdivMSY\*



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

## Atlantic cod North-East Arctic [CODNEAR]

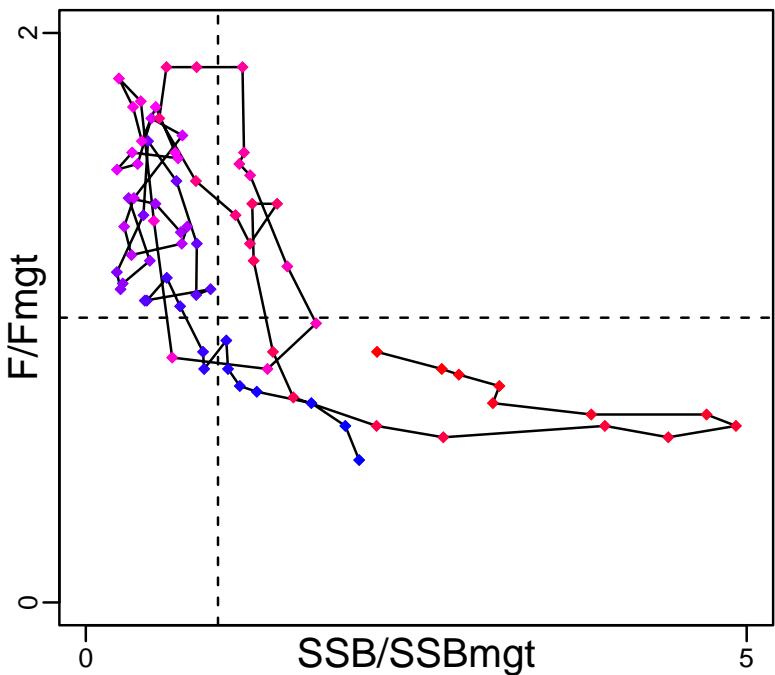
<b>Metadata</b>	
<b>Scientific Name</b>	Gadus morhua
<b>Current Assess ID</b>	AFWG-CODNEAR-1943-2021-ICESIMP2024
<b>Area</b>	North-East Arctic
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Arctic Fisheries Working Group
<b>Asmts in RAM</b>	2013, 2014, 2015, 2016, 2017, 2018, 2019, 2021, 2011, 2020

<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2018	0.4
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2021	460,000
<b>Fmgt</b>	Fmgt-1/yr	2021	0.5
<b>ERmgt</b>	ERmgt-ratio	2020	0.4
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2021	220,000
<b>Flim</b>	Flim-1/yr	2021	0.74
<b>ERlim</b>	ERlim-ratio	2020	0.74

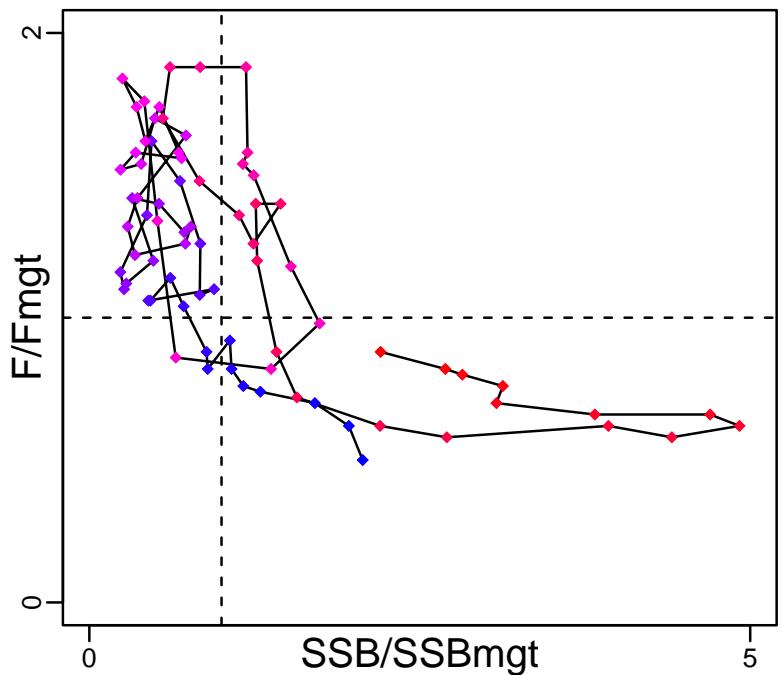
<b>Time Series</b>						
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Curr Value</b>	<b>Sex</b>	<b>Age</b>	
<b>TB</b>	TB-MT	2019	2,612,690	-	-	
<b>SSB</b>	SSB-MT	2021	902,035	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2021	557,000	-	3	
<b>F</b>	F-1/yr	2021	0.44	-	5 to 10	
<b>ER</b>	ER-ratio	2020	0.338	-	-	
<b>TC</b>	TC-MT	2021	692,903			
<b>TL</b>	TL-MT	2021	692,903			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2018	1.002			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2021	1.961			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2021	0.88			
<b>ER/ERmgt</b>	-	-	-			

Atlantic cod North-East Arctic [CODNEAR]

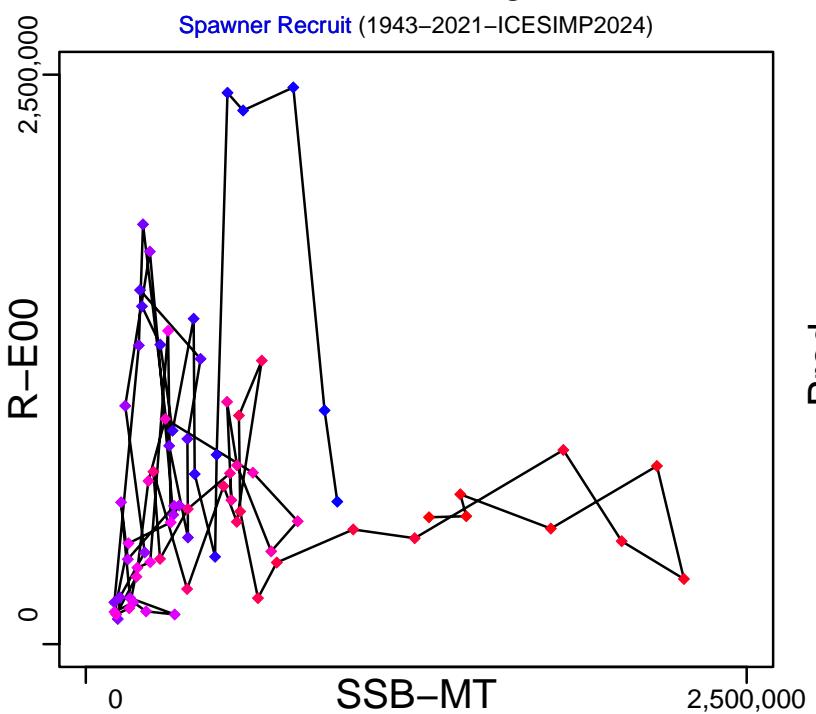
Kobe MSYpref (1943–2021–ICESIMP2024)



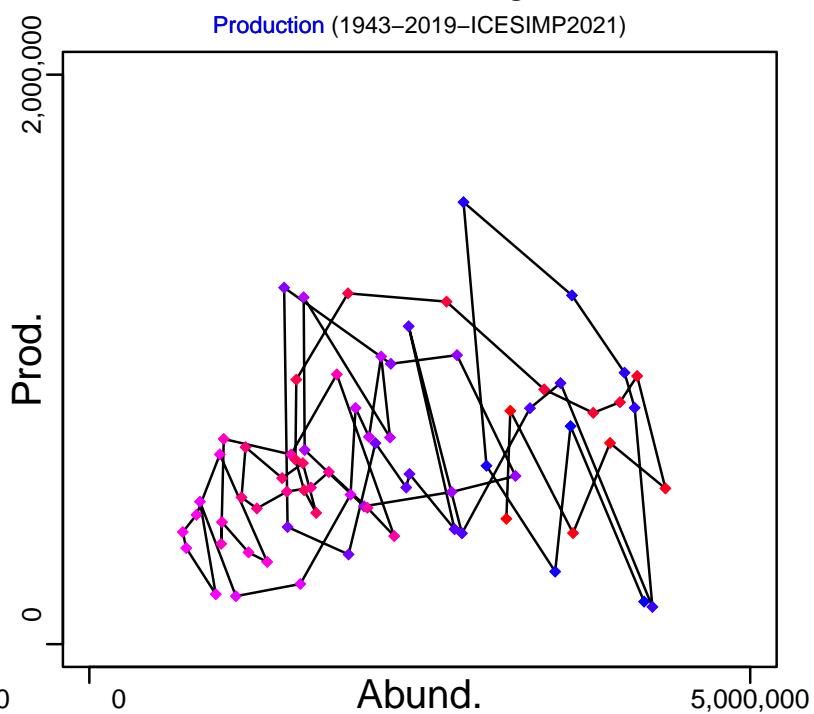
Kobe MGTpref (1943–2021–ICESIMP2024)



Spawner Recruit (1943–2021–ICESIMP2024)



Production (1943–2019–ICESIMP2021)

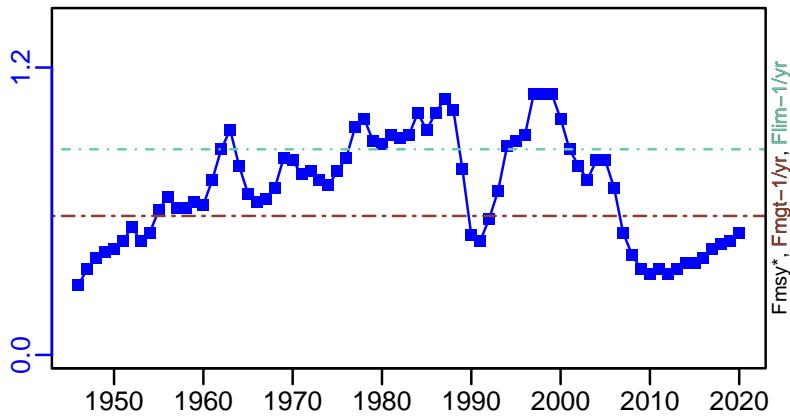
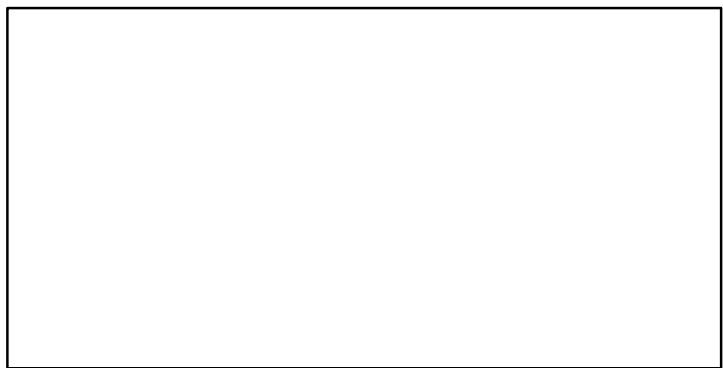
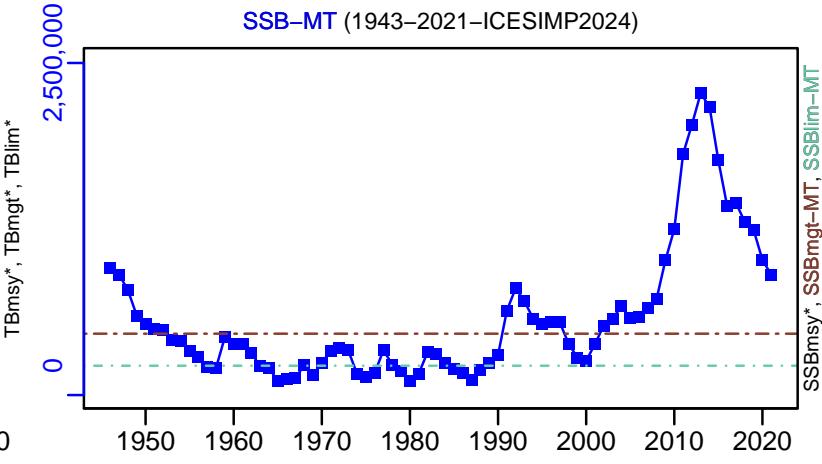
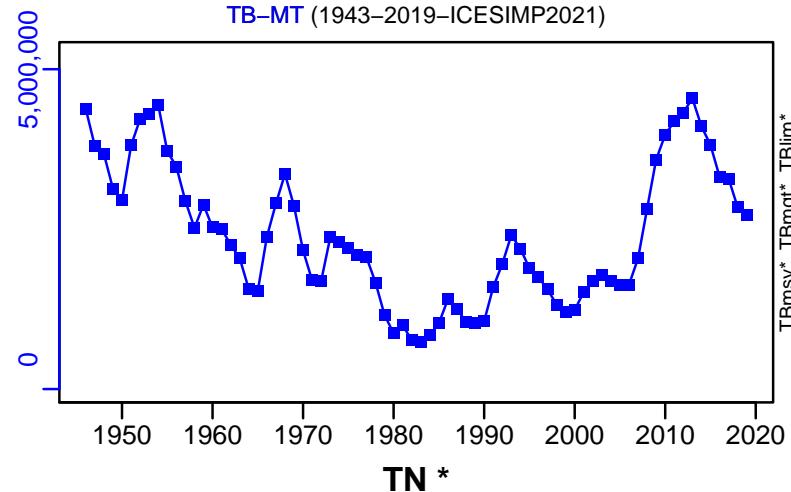


◆ Start Year ♦ End Year \* No Data

### Atlantic cod North-East Arctic [CODNEAR]

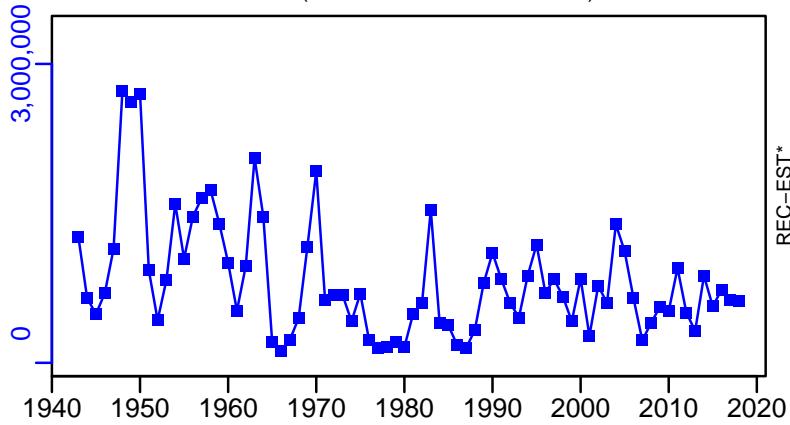
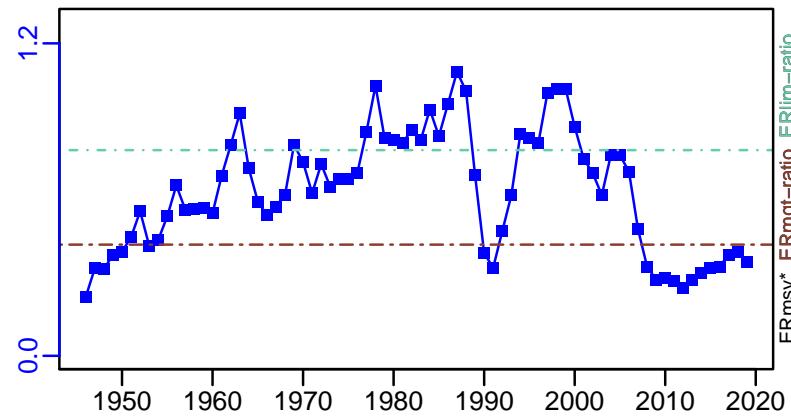
TB-MT (1943–2019–ICESIMP2021)

SSB-MT (1943–2021–ICESIMP2024)



ER-ratio (1946–2020–ICESIMP2021–2)

R-E00 (1943–2021–ICESIMP2024)

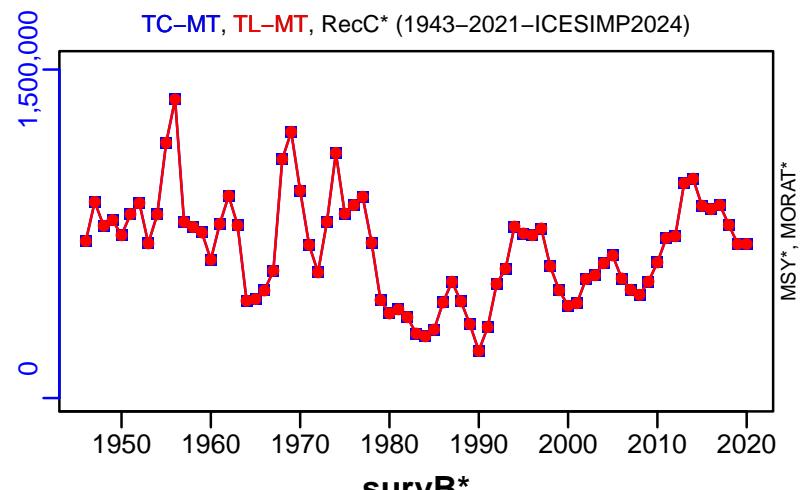


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| - - MSY-based BRP    | - - Lim BRP  | * No Data |

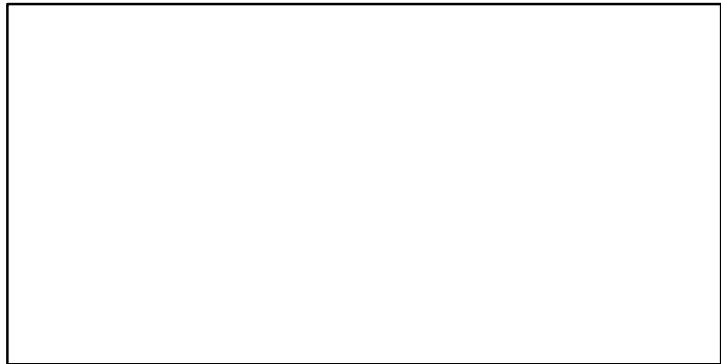
Atlantic cod North-East Arctic [CODNEAR]

TC-MT, TL-MT, RecC\* (1943–2021–ICESIMP2024)

TAC\*, Cpair\*, Cadv\*



CPUE\*



CdivMSY\*



EFFORT\*



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

## Atlantic cod North-East Arctic (Norwegian coastal waters) [CODNEARNCW]

Metadata	
<b>Scientific Name</b>	Gadus morhua
<b>Current Assess ID</b>	AFWG-CODNEARNCW-1984-2019-ICESIMP2021-2
<b>Area</b>	North-East Arctic (Norwegian coastal waters)
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Arctic Fisheries Working Group
<b>Asmts in RAM</b>	2016, 2018, 2016, 2017, 2019

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	2016	60,000
<b>Fmgt</b>	Fmgt-1/yr	2016	0.1
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<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>	-	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-	-
<b>TN</b>	-	-	-	-	-	-
<b>R</b>	R-E00	2019	22,600,000	-	2	
<b>F</b>	F-1/yr	2019	0.2	-	-	
<b>ER</b>	-	-	-	-	-	
<b>TC</b>	TC-MT	2017	52,900			
<b>TL</b>	TL-MT	2019	40,100			
<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>	F-1/yr/Fmgt-1/yr	2016	3.31			
<b>ER/ERmgt</b>	-	-	-			

**Kobe MSY\***

**Kobe MGT\***

**Spawner Recruit\***

**Production\***

◆ Start Year ♦ End Year \* No Data

Atlantic cod North–East Arctic (Norwegian coastal waters) [CODNEARNCW]

**TB\***

**SSB\***

**TN \***

**F-1/yr (1984–2019–ICESIMP2021–2)**

**ER\***

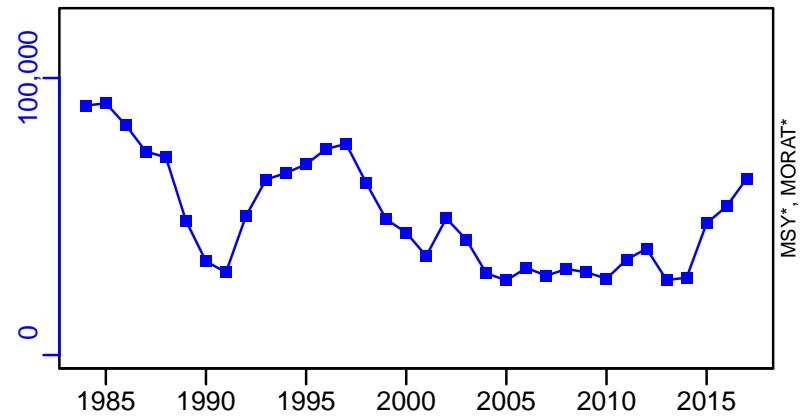
**R-E00 (1984–2019–ICESIMP2021–2)**

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

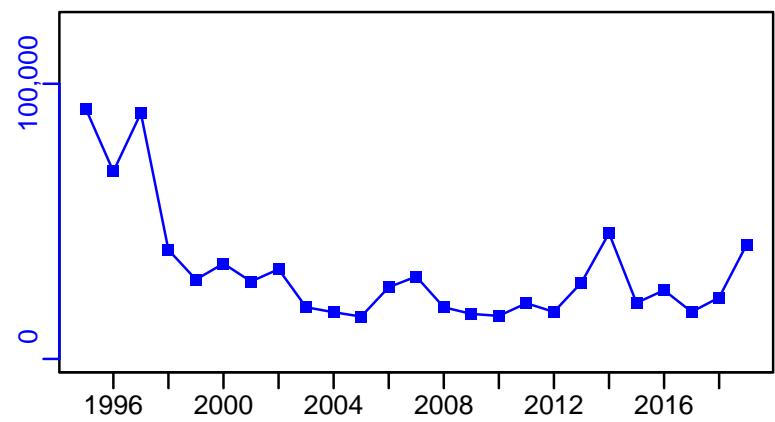
Atlantic cod North–East Arctic (Norwegian coastal waters) [CODNEARNCW]

TC-MT, TL\*, RecC\* (1984–2017–ICESIMP2018)

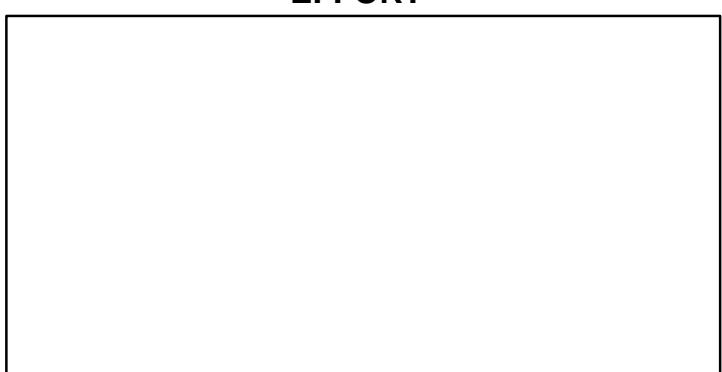
TAC\*, Cpair\*, Cadv\*



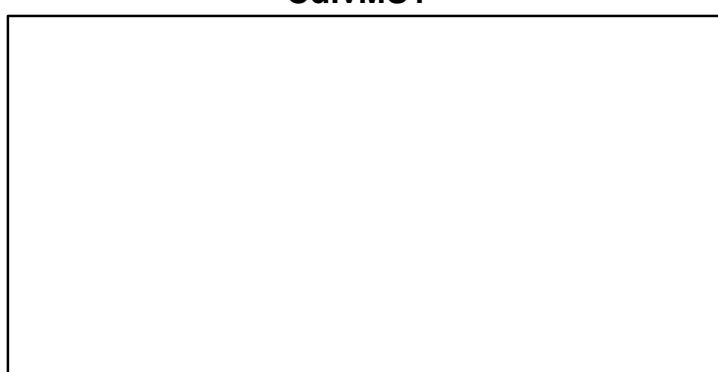
survB-MT (1984–2019–ICESIMP2021–2)



CPUE\*



CdivMSY\*



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

## Atlantic cod West of Scotland [CODVla]

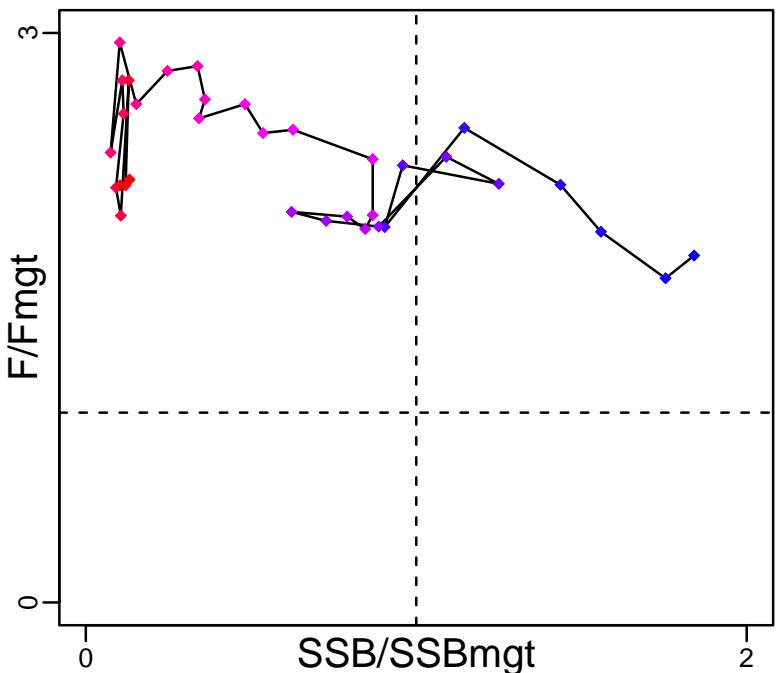
<b>Metadata</b>	
<b>Scientific Name</b>	Gadus morhua
<b>Current Assess ID</b>	WGCSE-CODVla-1980-2022-ICESIMP2024
<b>Area</b>	West of Scotland
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on Celtic Seas Ecosystems
<b>Asmts in RAM</b>	2013, 2014, 2015, 2017, 2019, 2022, 2012, 2016, 2020, 2021

<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2022	0.3
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2015	22,000
<b>Fmgt</b>	Fmgt-1/yr	2022	0.3
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2022	14,376
<b>Flim</b>	Flim-1/yr	2022	0.73
<b>ERlim</b>	-	-	-

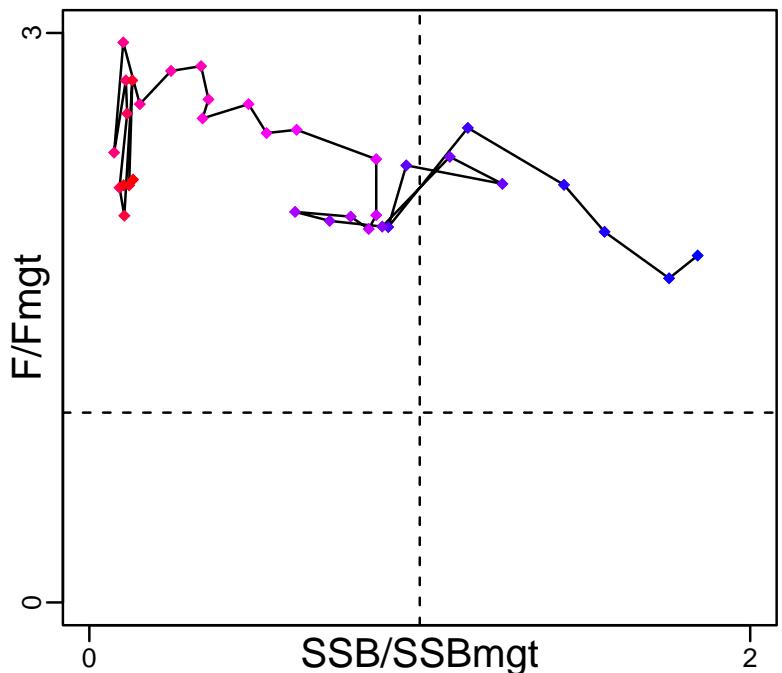
<b>Time Series</b>						
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Curr Value</b>	<b>Sex</b>	<b>Age</b>	
<b>TB</b>	TB-MT	2017	4250	Both	-	
<b>SSB</b>	SSB-MT	2022	3288	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2022	2226	-	1	
<b>F</b>	F-1/yr	2022	0.747	-	2 to 5	
<b>ER</b>	ER-calc-ratio	2017	0.419	-	-	
<b>TC</b>	TC-MT	2020	2260			
<b>TL</b>	TL-MT	2022	1241			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2022	2.49			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2015	0.153			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2022	2.49			
<b>ER/ERmgt</b>	-	-	-			

Atlantic cod West of Scotland [CODV1a]

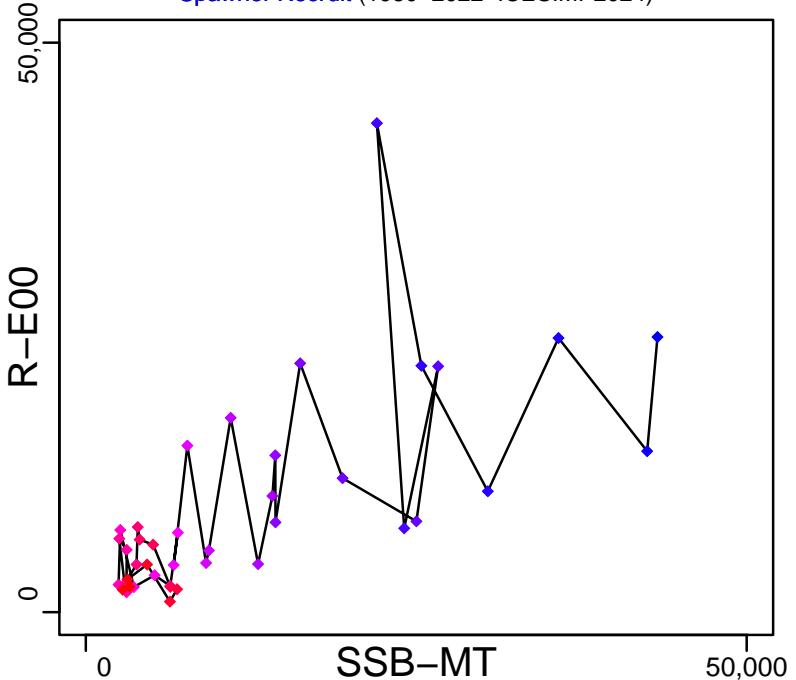
Kobe MSYpref (1980–2015–ICESIMP2016)



Kobe MGTpref (1980–2015–ICESIMP2016)



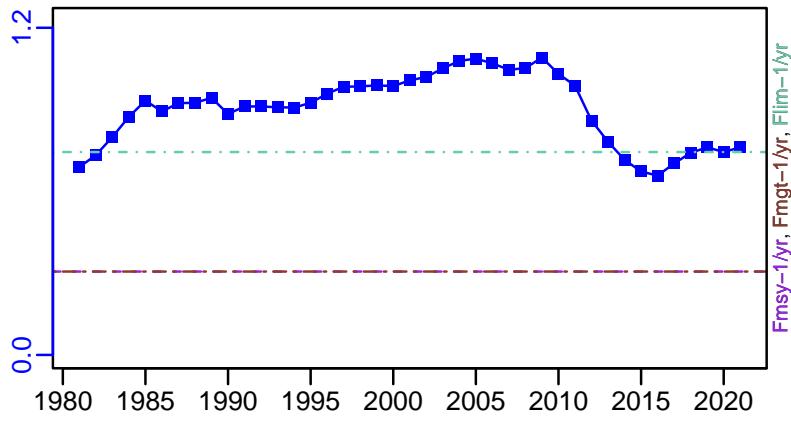
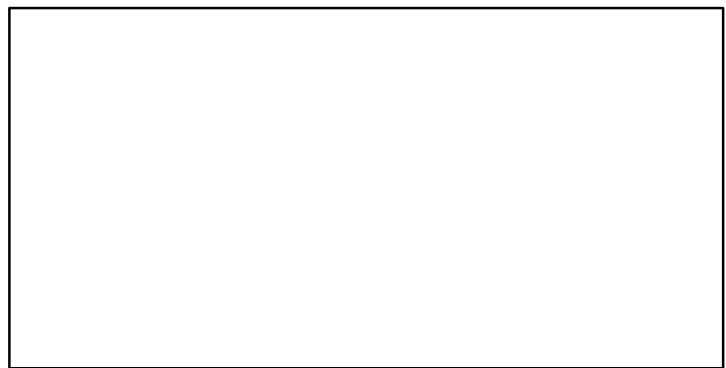
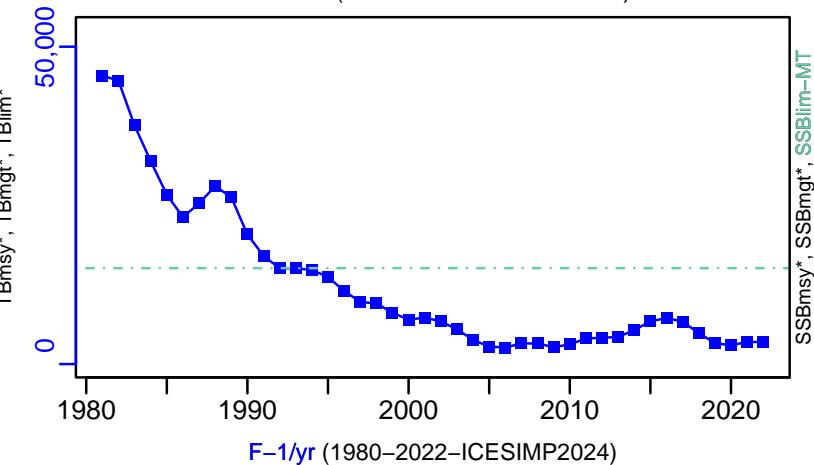
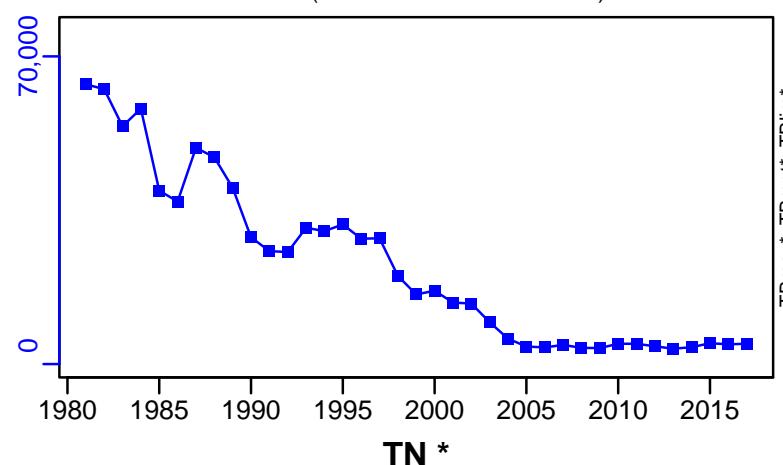
Spawner Recruit (1980–2022–ICESIMP2024)



### Atlantic cod West of Scotland [CODVla]

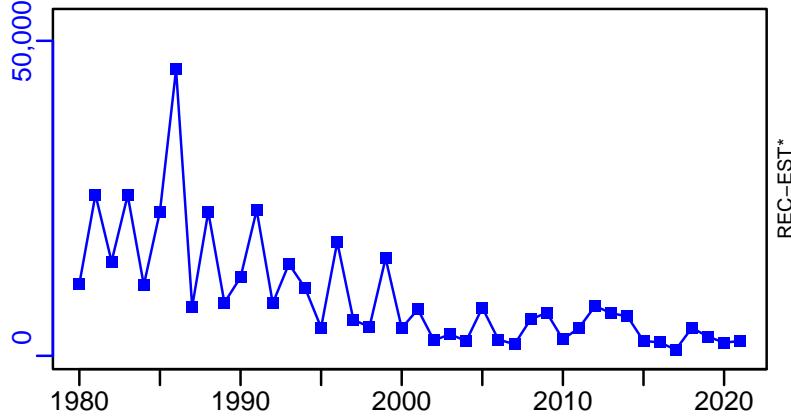
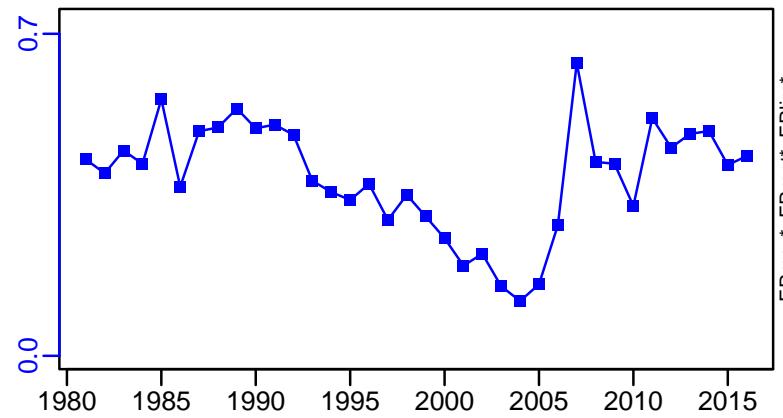
TB-MT (1980–2017–ICESIMP2018)

SSB-MT (1980–2022–ICESIMP2024)



ER-calc-ratio (1980–2017–ICESIMP2018)

R-E00 (1980–2022–ICESIMP2024)

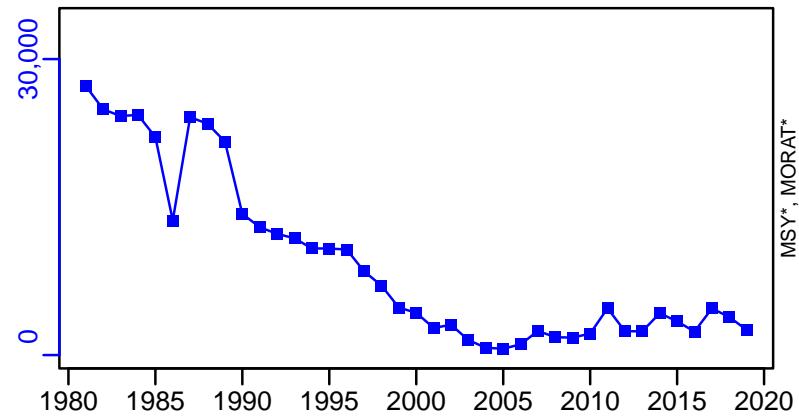


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	- - Lim BRP	* No Data

Atlantic cod West of Scotland [CODV1a]

TC-MT, TL\*, RecC\* (1981–2020—ICESIM2021–2)

TAC\*, Cpair\*, Cadv\*



survB\*

MSY\*, MORAT\*

CPUE\*

EFFORT\*

CdivMSY\*

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

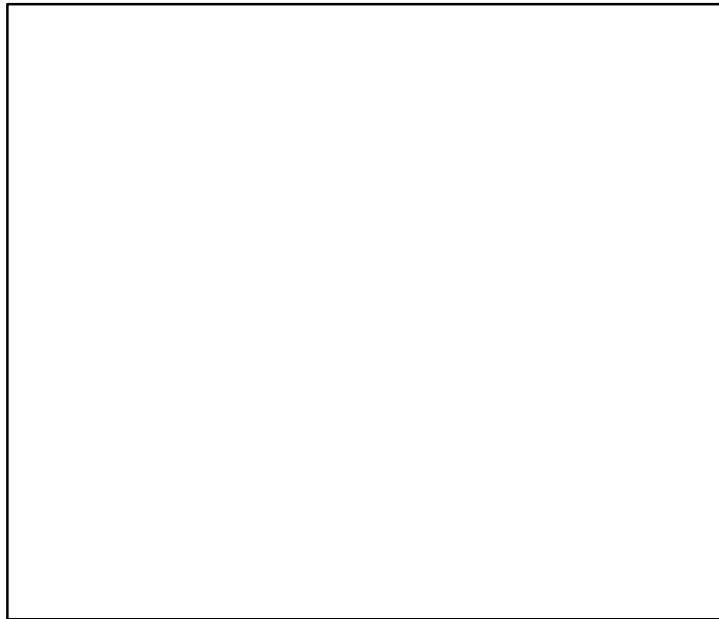
## Atlantic cod Rockall Bank [CODVlb]

<b>Metadata</b>	
<b>Scientific Name</b>	Gadus morhua
<b>Current Assess ID</b>	WGCSE-CODVlb-1984-2019-ICESIMP2021-2
<b>Area</b>	Rockall Bank
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on Celtic Seas Ecosystems
<b>Asmts in RAM</b>	2014, 2016, 2019

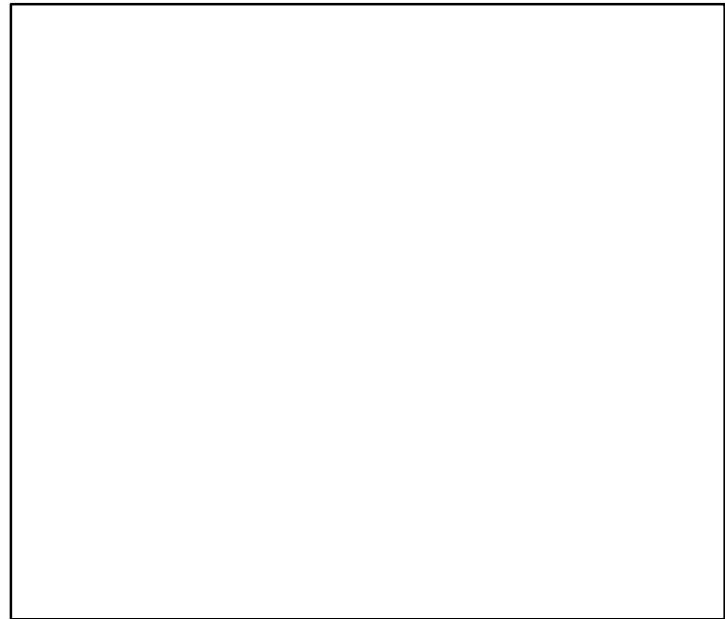
<b>Reference Points</b>			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>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

<b>Time Series</b>					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	-	-	-		
<b>TL</b>	TL-MT	2019	68		
<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>	-	-	-		

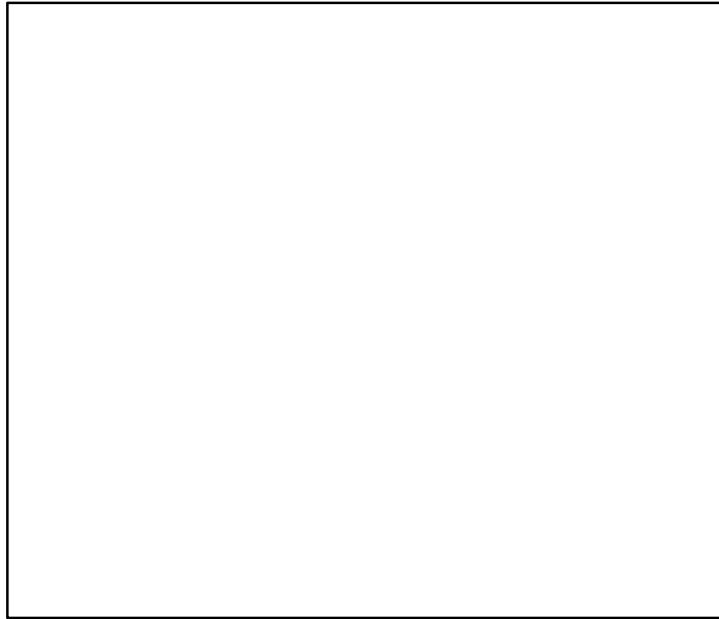
**Kobe MSY\***



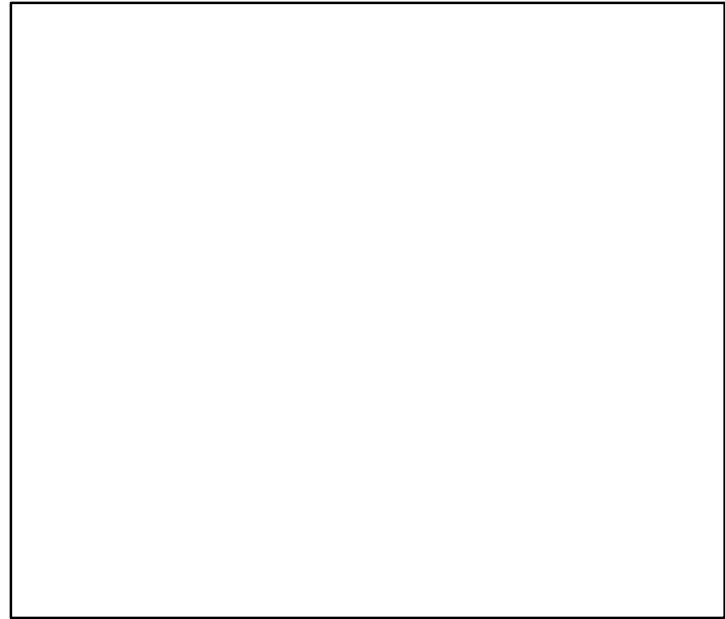
**Kobe MGT\***



**Spawner Recruit\***



**Production\***



◆ Start Year ◆ End Year \* No Data

Atlantic cod Rockall Bank [CODVlb]

**TB\***



**SSB\***



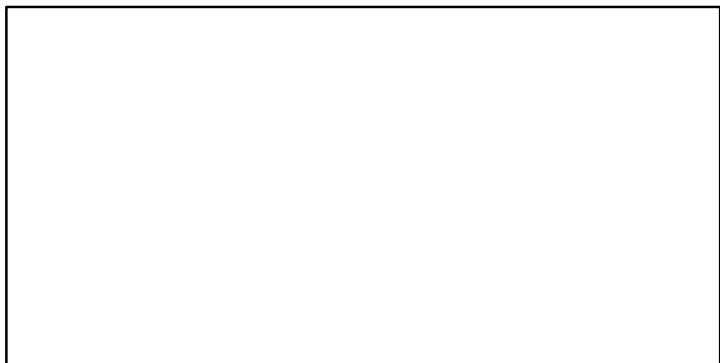
**TN \***



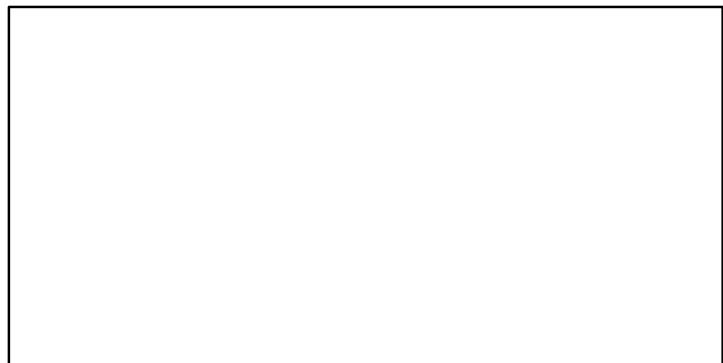
**F\***



**ER\***



**Recruits\***

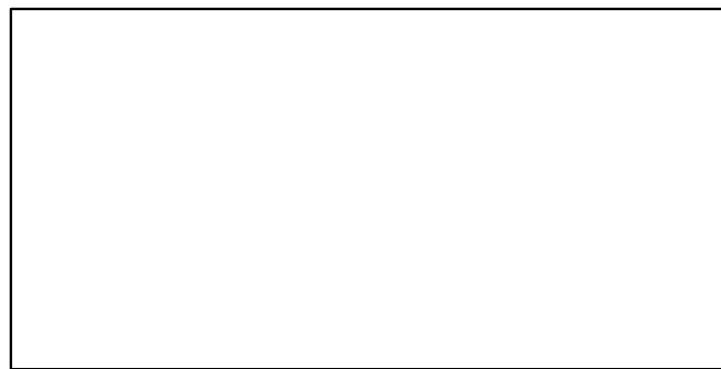
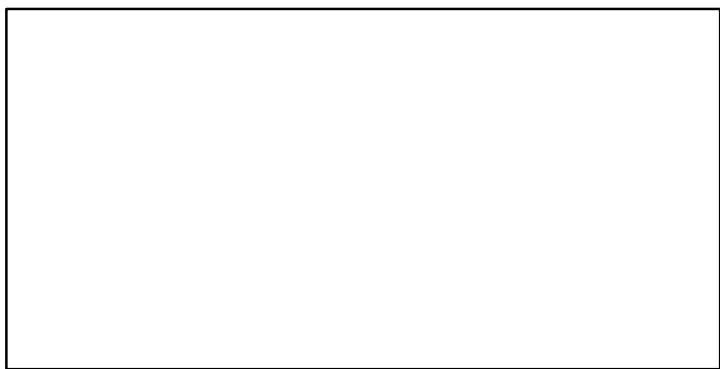
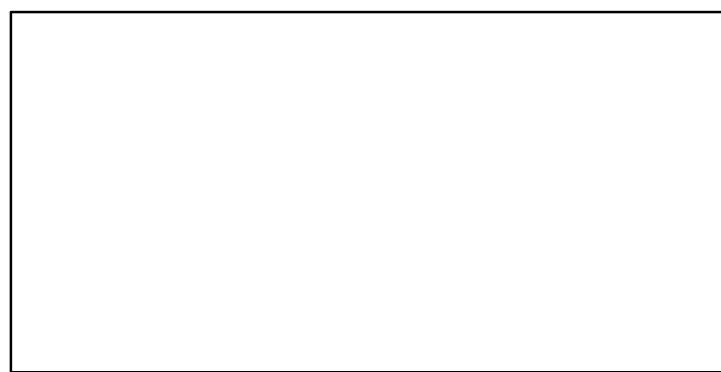
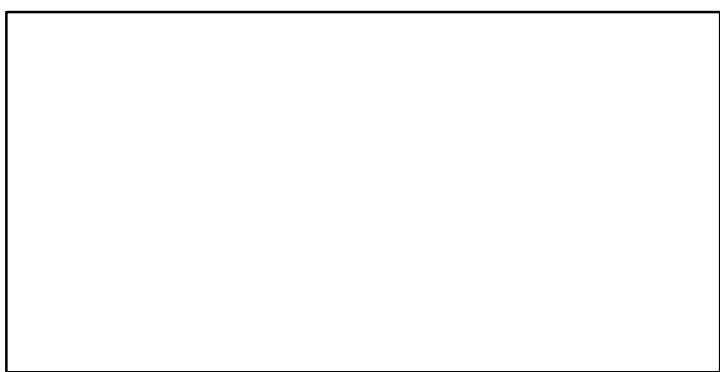
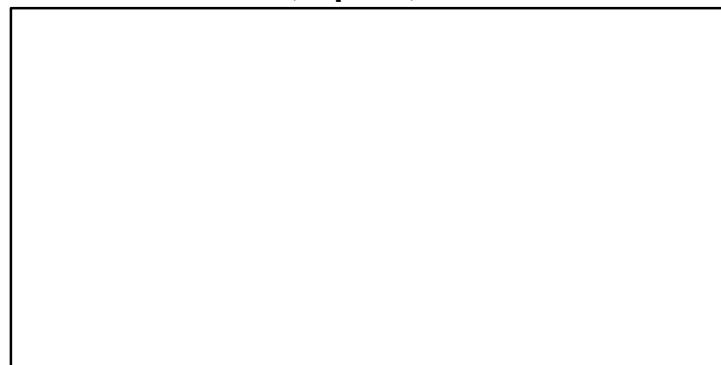
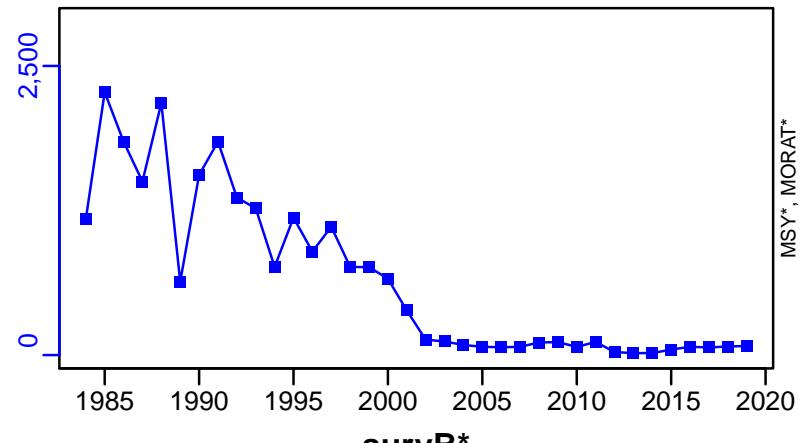


- |       |                    |       |            |   |         |
|-------|--------------------|-------|------------|---|---------|
| ■     | Listed time series | - - - | Target BRP | — | Rec-Est |
| - - - | MSY-based BRP      | - - - | Lim BRP    | * | No Data |

Atlantic cod Rockall Bank [CODVlb]

TL-MT, TC\*, RecC\* (1984–2019–ICESIMP2021–2)

TAC\*, Cpair\*, Cadv\*



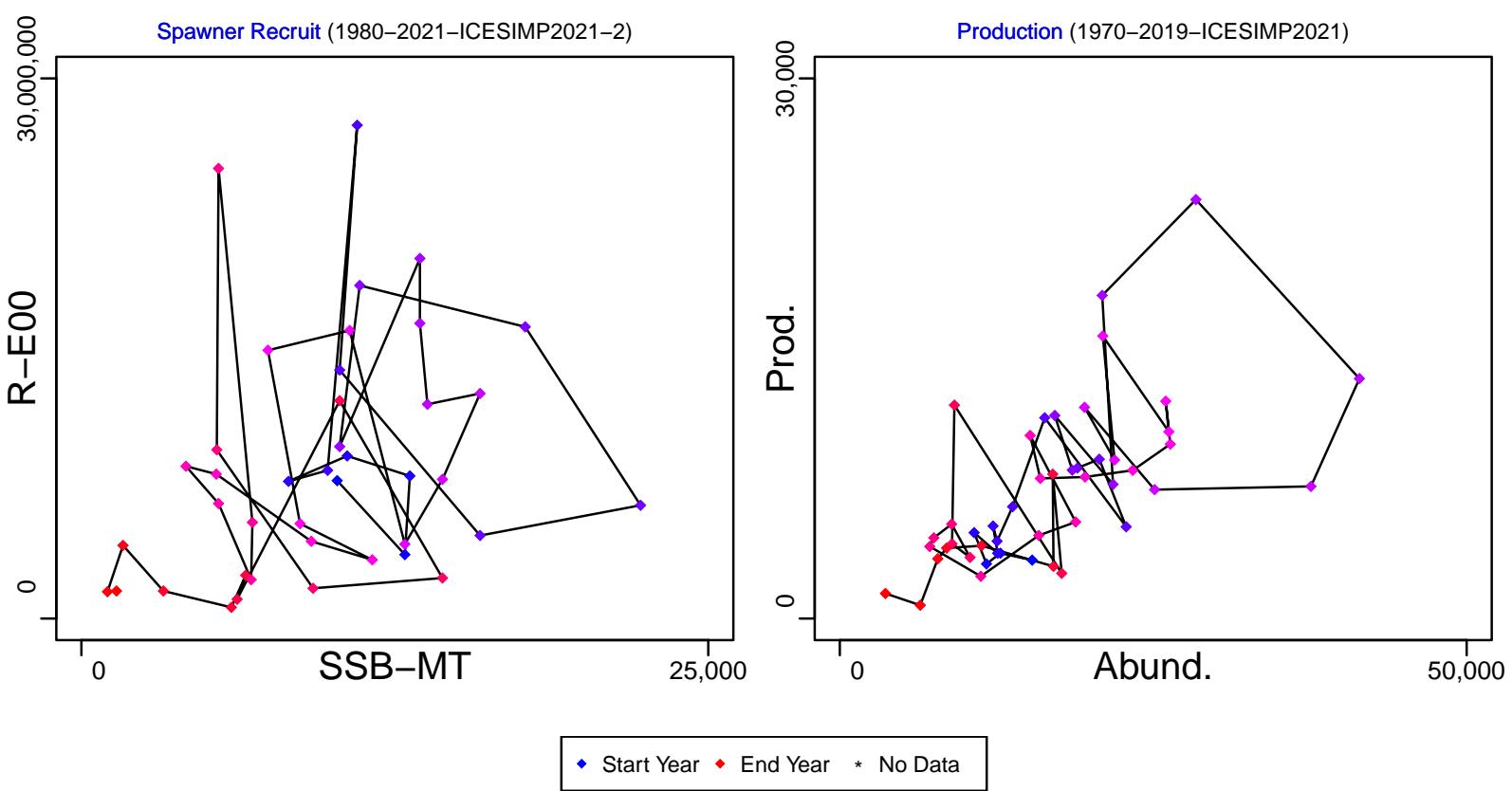
- |                          |                          |           |
|--------------------------|--------------------------|-----------|
| ■ 1st listed time series | ▲ 3rd listed time series | — MORAT   |
| ● 2nd listed time series | - - MSY                  | * No Data |

## Atlantic cod Celtic Sea [CODVilek]

<b>Metadata</b>	
<b>Scientific Name</b>	Gadus morhua
<b>Current Assess ID</b>	WGCSE-CODVilek-1980-2021-ICESIMP2021-2
<b>Area</b>	Celtic Sea
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on Celtic Seas Ecosystems
<b>Asmts in RAM</b>	2012, 2013, 2014, 2015, 2016, 2017, 2019, 2020, 2021

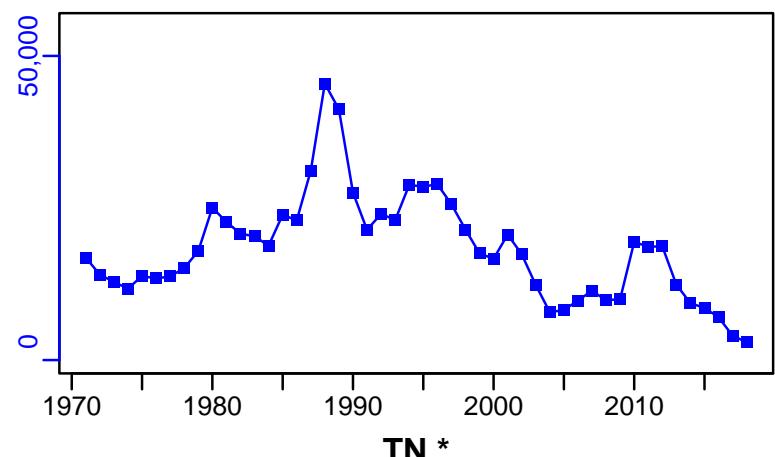
<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2021	0.29
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	Fmgt-1/yr	2021	0.29
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-MT	2012	10,300
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2021	4200
<b>Flim</b>	Flim-1/yr	2021	1.13
<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	2019	2678	-	-	
<b>SSB</b>	SSB-MT	2021	1710	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2021	1,530,000	-	1	
<b>F</b>	F-1/yr	2021	1.15	-	-	
<b>ER</b>	ER-calc-ratio	2019	0.584	-	-	
<b>TC</b>	TC-MT	2021	1150			
<b>TL</b>	TL-MT	2021	922			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2021	3.966			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2021	3.966			
<b>ER/ERmgt</b>	-	-	-			

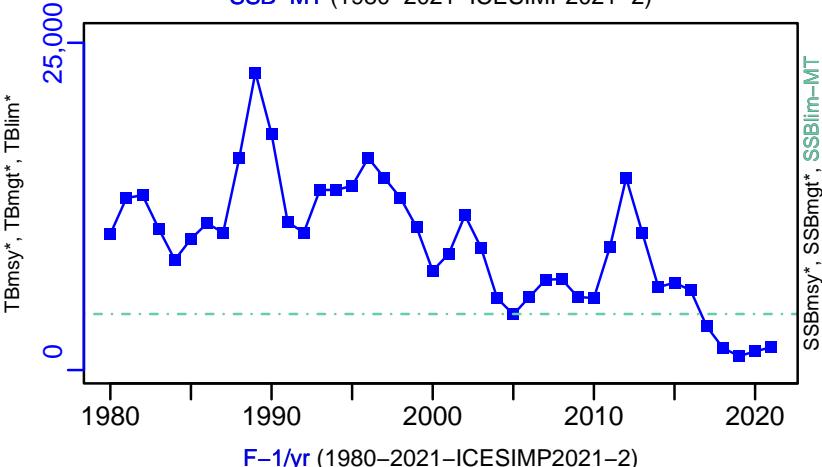
**Kobe MSY\*****Kobe MGT\***

### Atlantic cod Celtic Sea [CODVIlek]

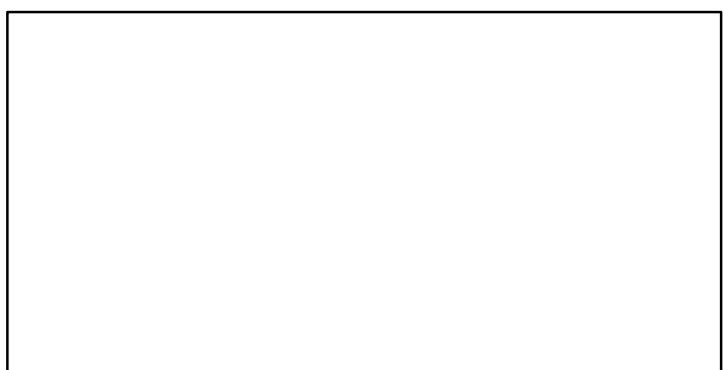
TB-MT (1970–2019–ICESIMP2021)



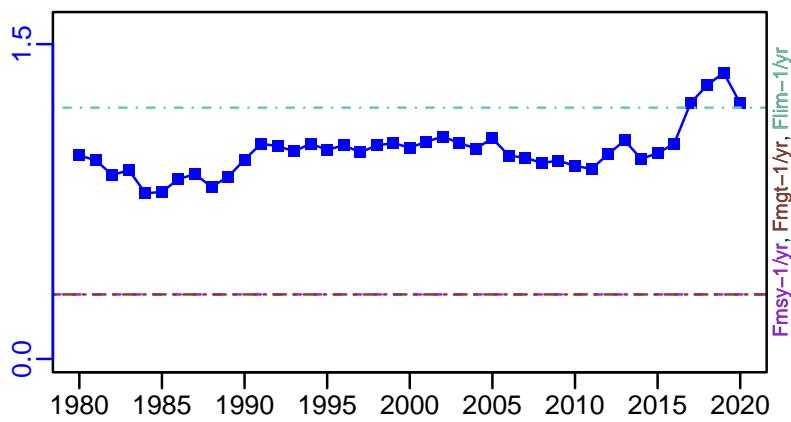
SSB-MT (1980–2021–ICESIMP2021–2)



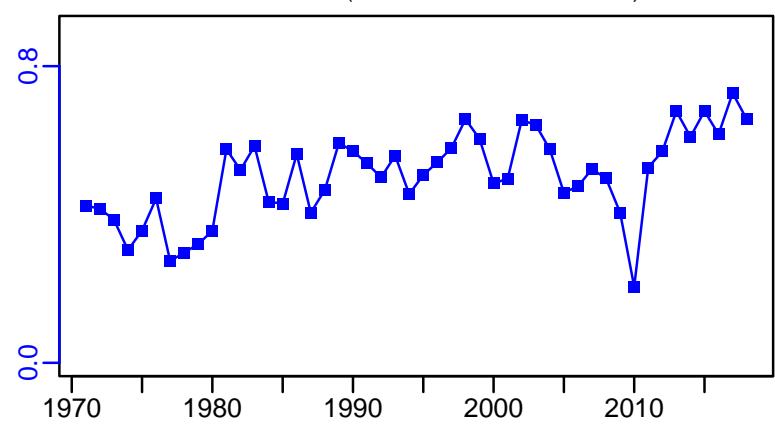
TN \*



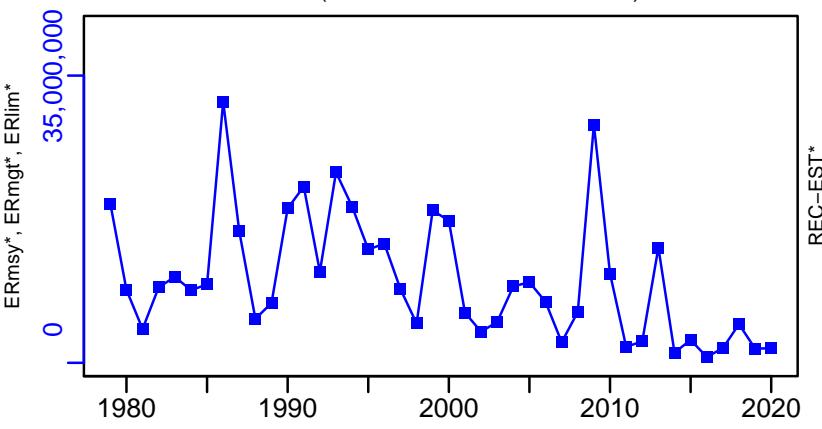
F-1/yr (1980–2021–ICESIMP2021–2)



ER-calc-ratio (1970–2019–ICESIMP2021)



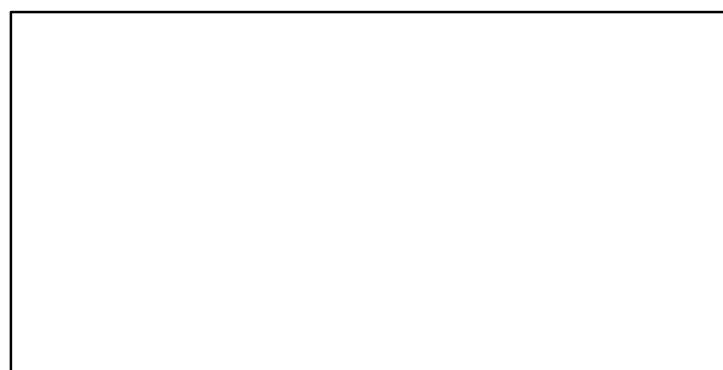
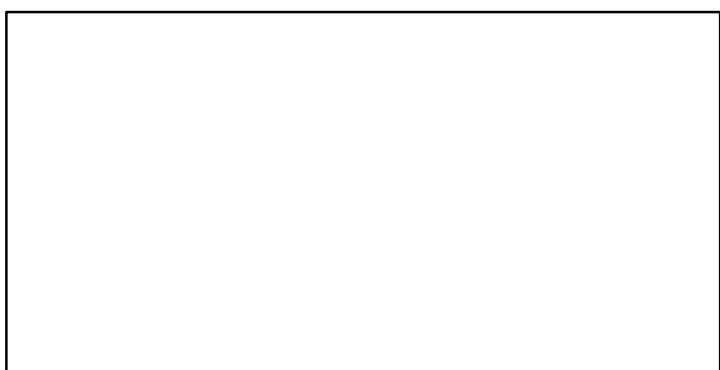
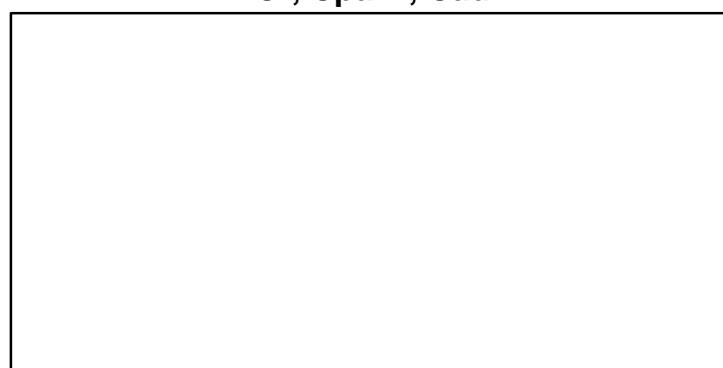
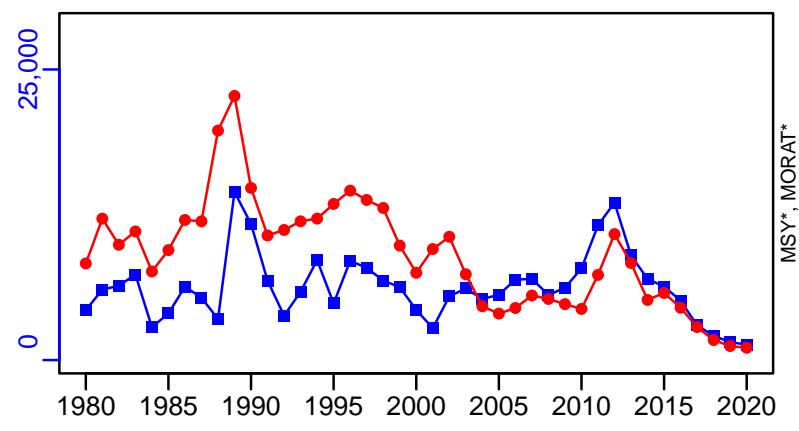
R-E00 (1980–2021–ICESIMP2021–2)



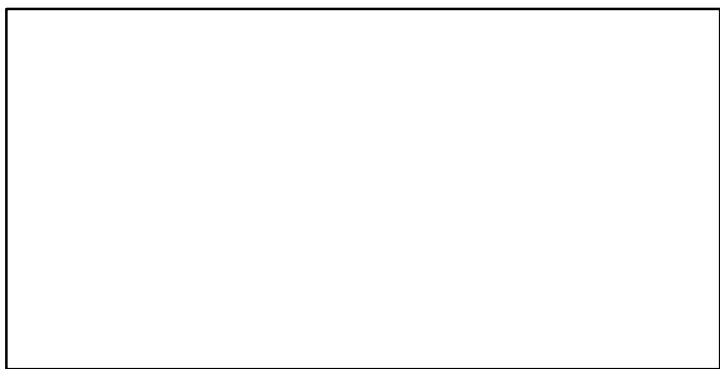
Atlantic cod Celtic Sea [CODVIlek]

TC-MT, TL-MT, RecC\* (1980–2021–ICESIMP2021–2)

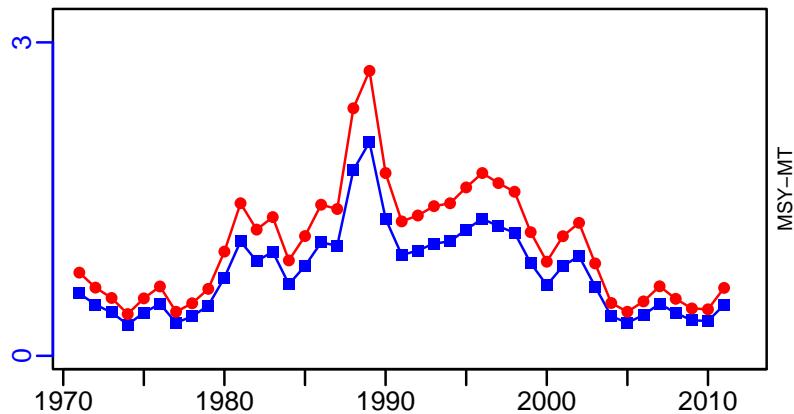
TAC\*, Cpair\*, Cadv\*



**EFFORT\***



TL-MT/MSY-MT, CdiveMEANC-ratio, (1971–2012–CHING)



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

## Cusk Western Scotian Shelf [CUSK4X]

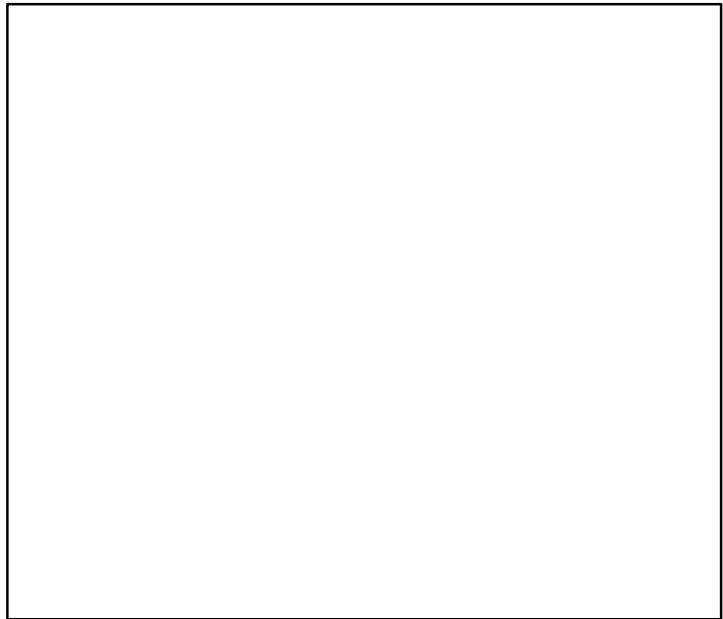
<b>Metadata</b>	
<b>Scientific Name</b>	Brosme brosme
<b>Current Assess ID</b>	DFO-MAR-CUSK4X-1970-2007-RICARD
<b>Area</b>	Western Scotian Shelf
<b>Management Authority</b>	Department of Fisheries and Oceans, Canada national management
<b>Assessor</b>	Department of Fisheries and Oceans - Maritimes Region
<b>Asmts in RAM</b>	2007

<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	TBmsy-MT	2007	25,790
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-ratio	2007	0.058
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	TB0-MT	2007	47,430
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-MT	2007	1483
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

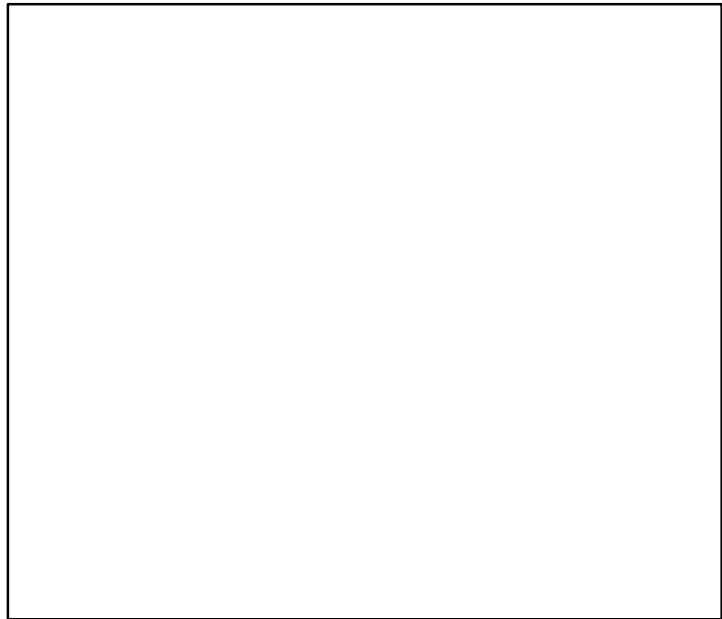
<b>Time Series</b>						
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Curr Value</b>	<b>Sex</b>	<b>Age</b>	
<b>TB</b>	TB-MT	2007	16,900	-	-	
<b>SSB</b>	-	-	-	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	-	-	-	-	-	
<b>F</b>	-	-	-	-	-	
<b>ER</b>	-	-	-	-	-	
<b>TC</b>	-	-	-			
<b>TL</b>	-	-	-			
<b>TB/TBmsy</b>	TB-MT/TBmsy-MT	2007	0.655			
<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>	-	-	-			

Cusk Western Scotian Shelf [CUSK4X]

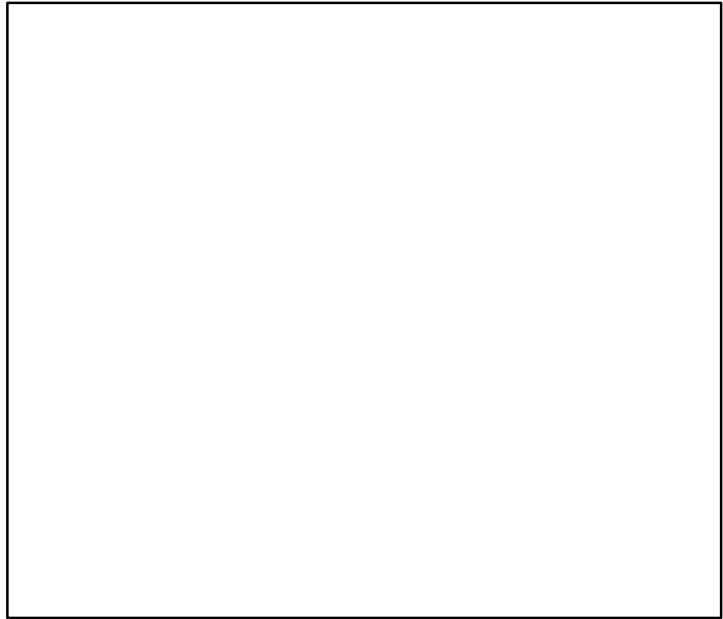
**Kobe MSY\***



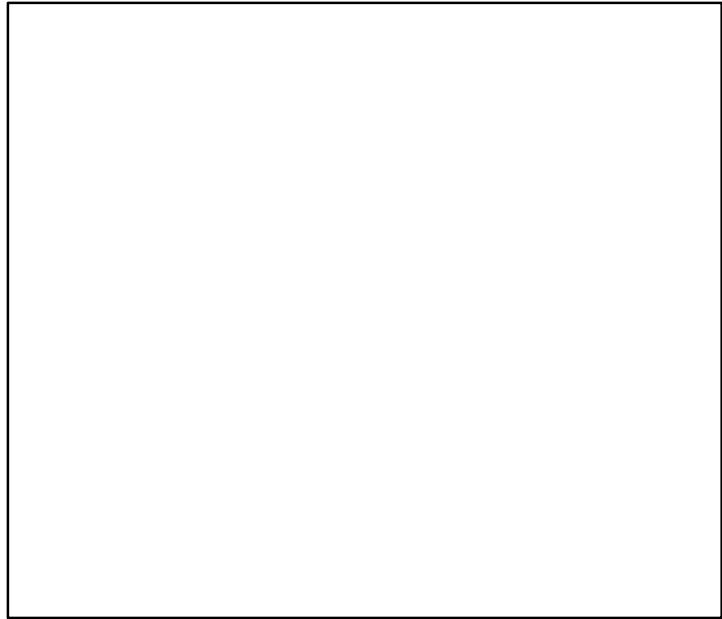
**Kobe MGT\***



**Spawner Recruit\***



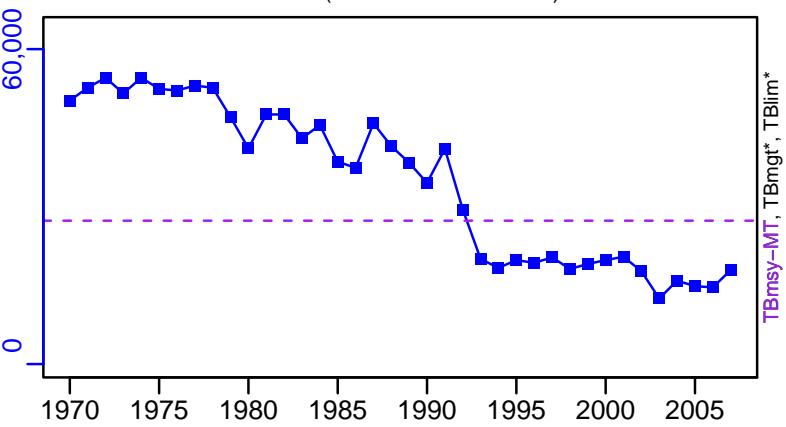
**Production\***



◆ Start Year ♦ End Year \* No Data

Cusk Western Scotian Shelf [CUSK4X]

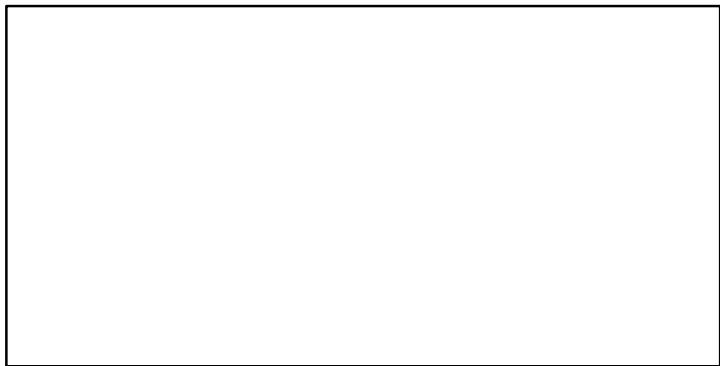
TB-MT (1970–2007–RICARD)



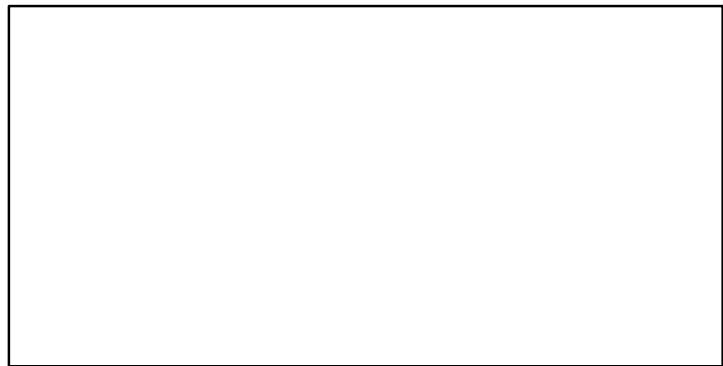
SSB\*



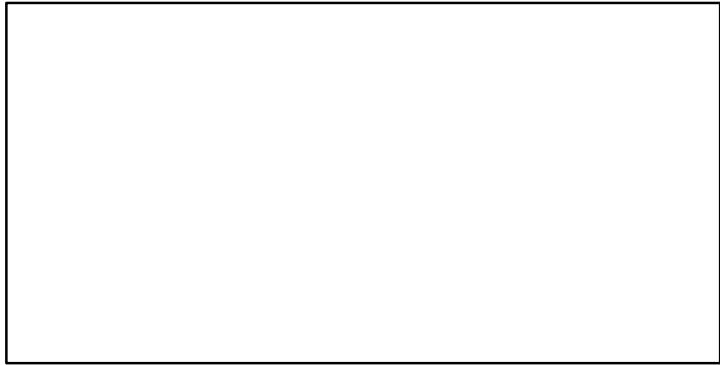
TN \*



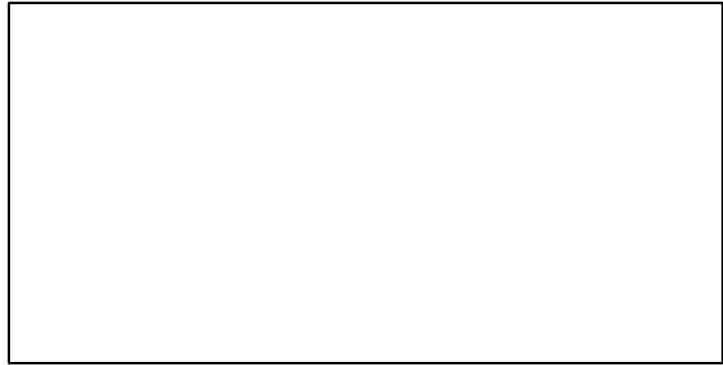
F\*



ER\*



Recruits\*

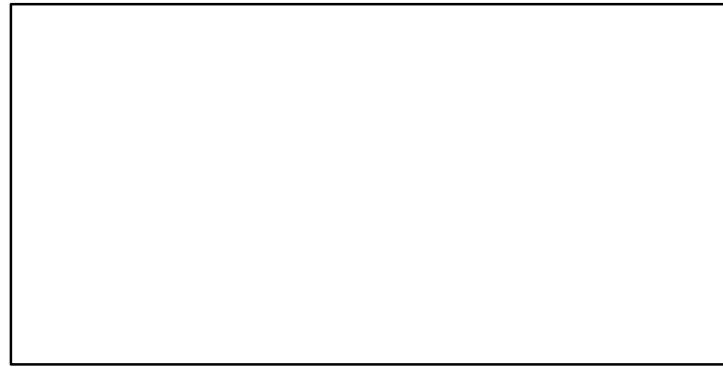
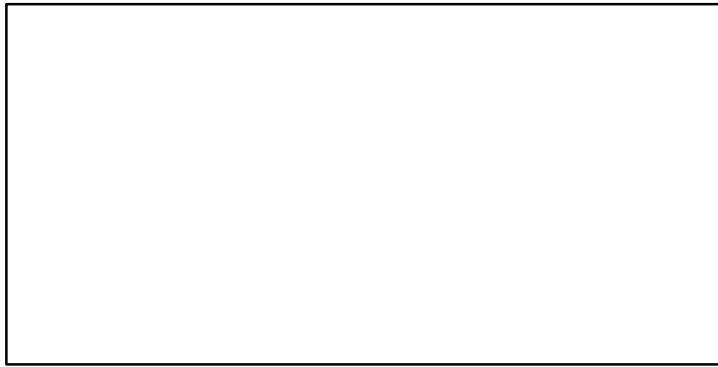


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| — MSY-based BRP      | — Lim BRP    | * No Data |

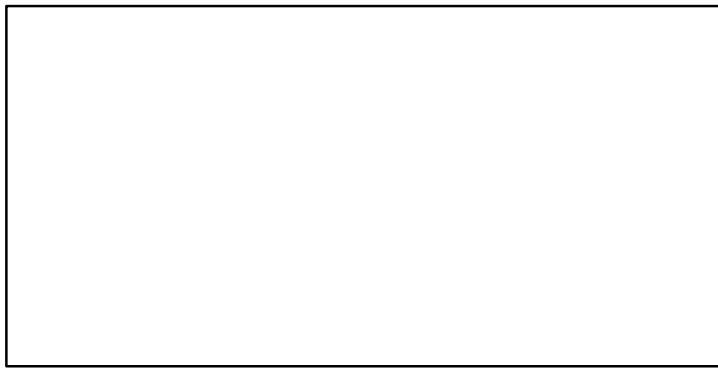
Cusk Western Scotian Shelf [CUSK4X]

**TC\*, TL\*, RecC\***

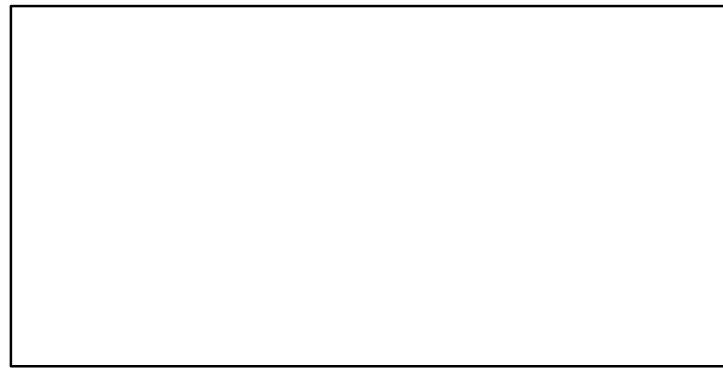
**TAC\*, Cpair\*, Cadv\***



**survB\***



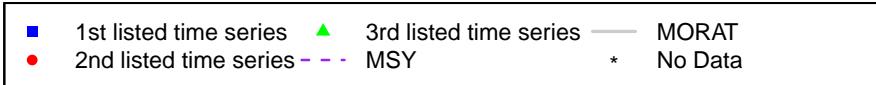
**CPUE\***



**EFFORT\***



**CdivMSY\***



## Tusk North-East Arctic [CUSKI-II]

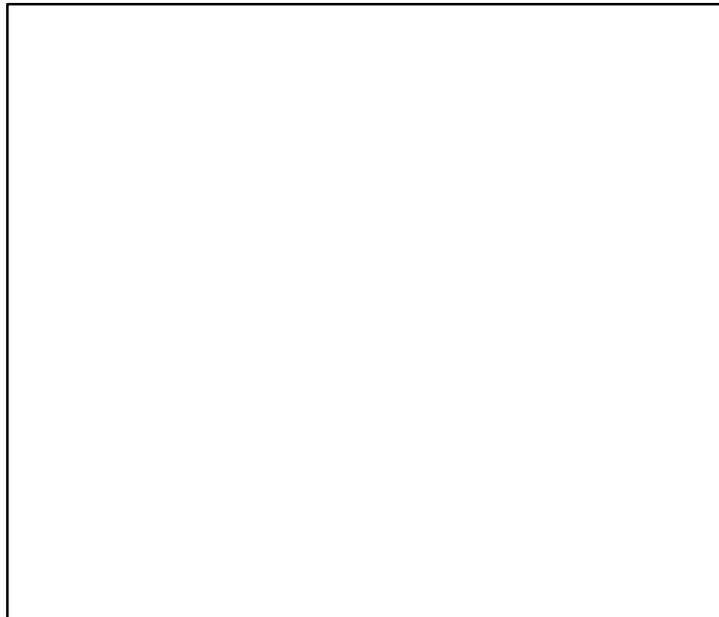
<b>Metadata</b>	
<b>Scientific Name</b>	Brosme brosme
<b>Current Assess ID</b>	WGDEEP-CUSKI-II-1988-2020-ICESIMP2021-2
<b>Area</b>	North-East Arctic
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources
<b>Asmts in RAM</b>	2014, 2016, 2018, 2020

<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>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

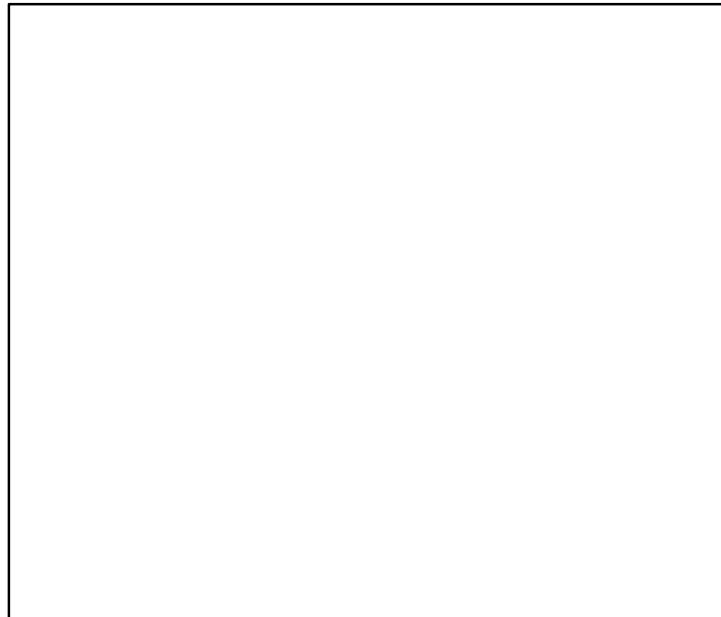
<b>Time Series</b>					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	-	-	-	-	-
<b>SSB</b>	SSB-index	2014	111	Both	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2014	8730		
<b>TL</b>	TL-MT	2020	9120		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

**Tusk North–East Arctic [CUSKI-II]**

**Kobe MSY\***



**Kobe MGT\***



**Spawner Recruit\***



**Production\***



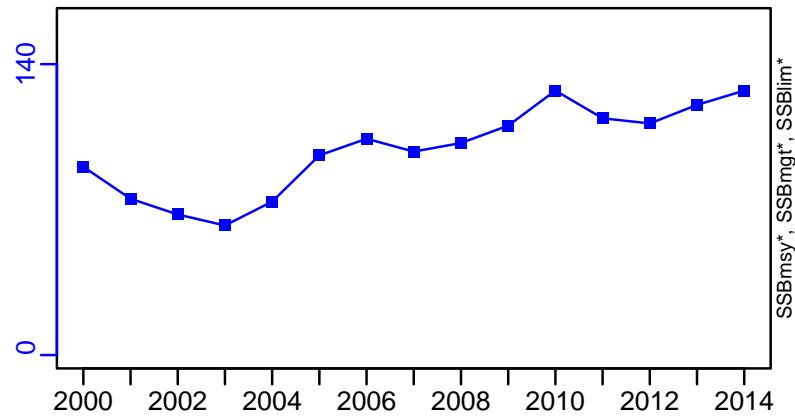
◆ Start Year ♦ End Year \* No Data

Tusk North–East Arctic [CUSKI-II]

**TB\***

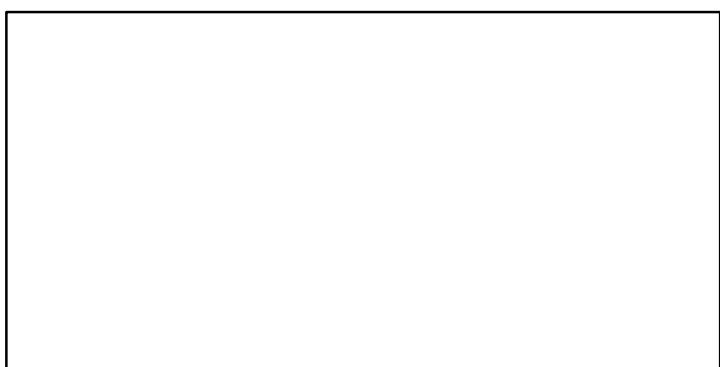


SSB-index (1988–2014–ICESIMP2018)

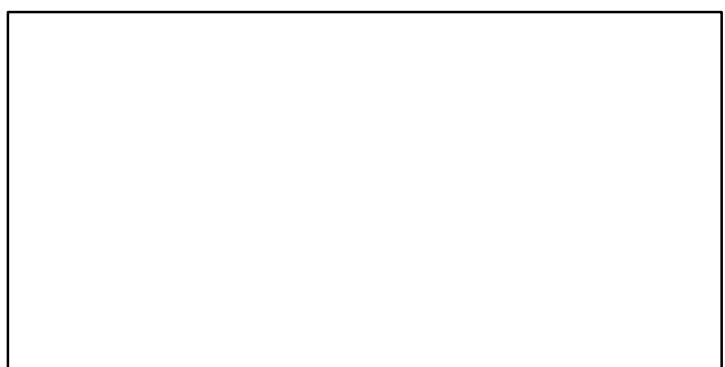


SSB<sub>m</sub>sy\*, SSB<sub>mgt</sub>\*, SSB<sub>lim</sub>\*

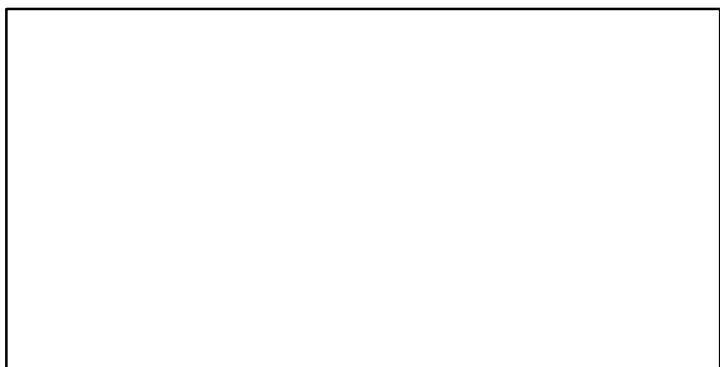
**TN \***



**F\***



**ER\***



**Recruits\***

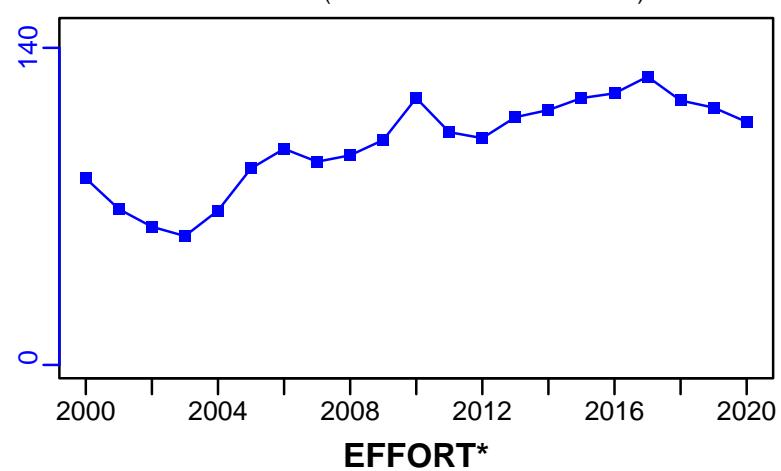
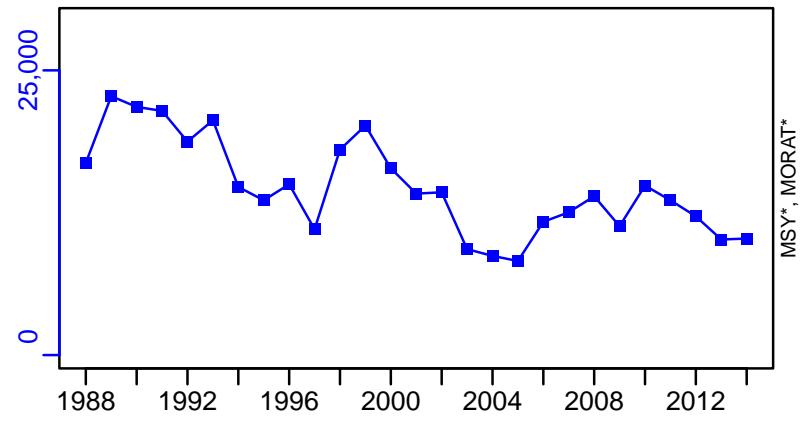


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| — MSY-based BRP      | — Lim BRP    | * No Data |

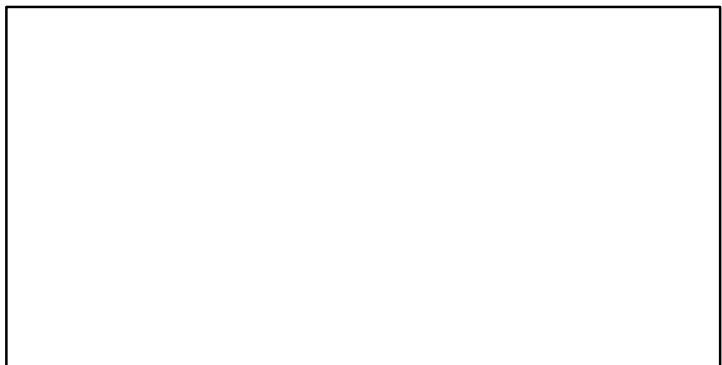
Tusk North–East Arctic [CUSKI-II]

TC-MT, TL\*, RecC\* (1988–2014–ICESIMP2018)

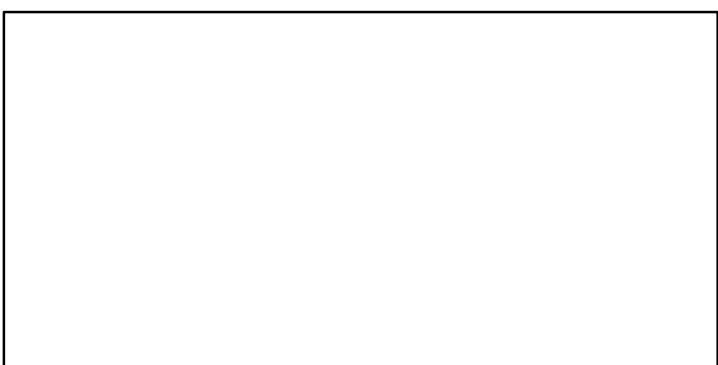
TAC\*, Cpair\*, Cadv\*



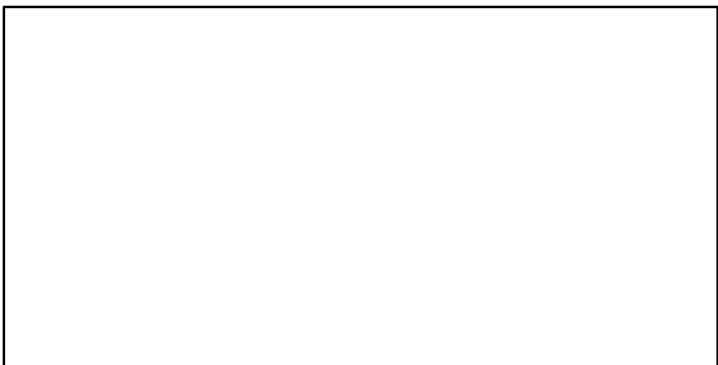
EFFORT\*



CPUE\*



CdivMSY\*



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

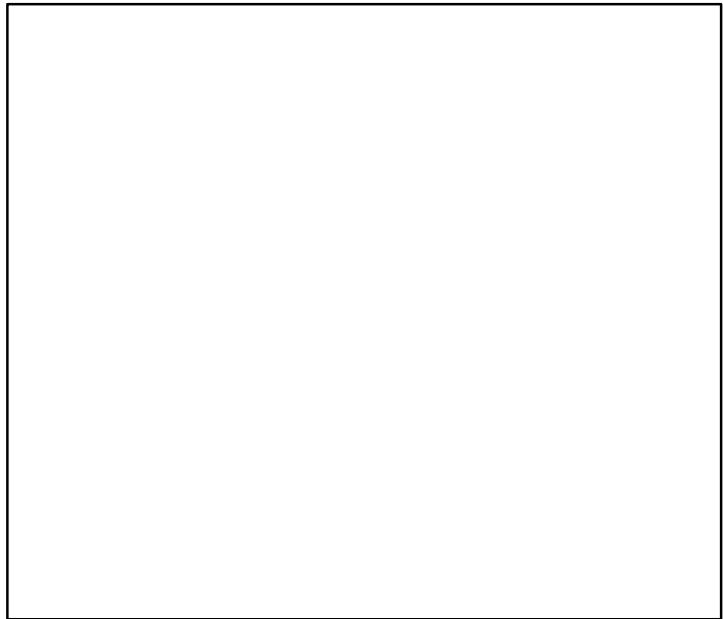
## Tusk Northeast Atlantic [CUSKNEATL]

<b>Metadata</b>	
<b>Scientific Name</b>	Brosme brosme
<b>Current Assess ID</b>	WGDEEP-CUSKNEATL-1988-2020-ICESIMP2021-2
<b>Area</b>	Northeast Atlantic
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources
<b>Asmts in RAM</b>	2014, 2016, 2018, 2020

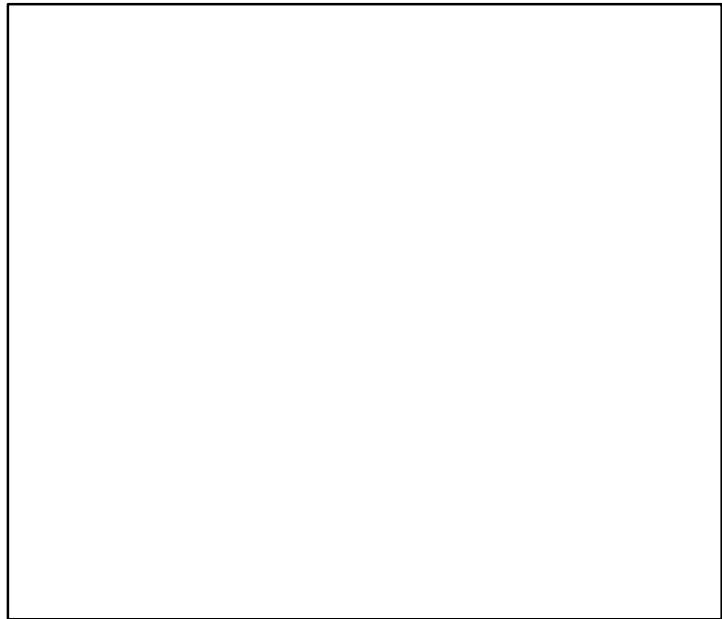
<b>Reference Points</b>			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>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

<b>Time Series</b>					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	-	-	-	-	-
<b>SSB</b>	SSB-index	2014	131	Both	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2014	4590		
<b>TL</b>	TL-MT	2020	4070		
<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>	-	-	-		

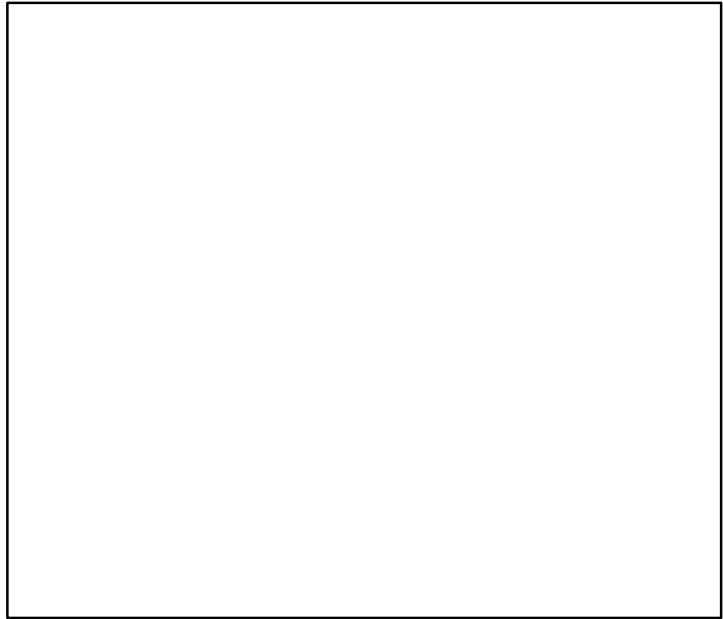
**Kobe MSY\***



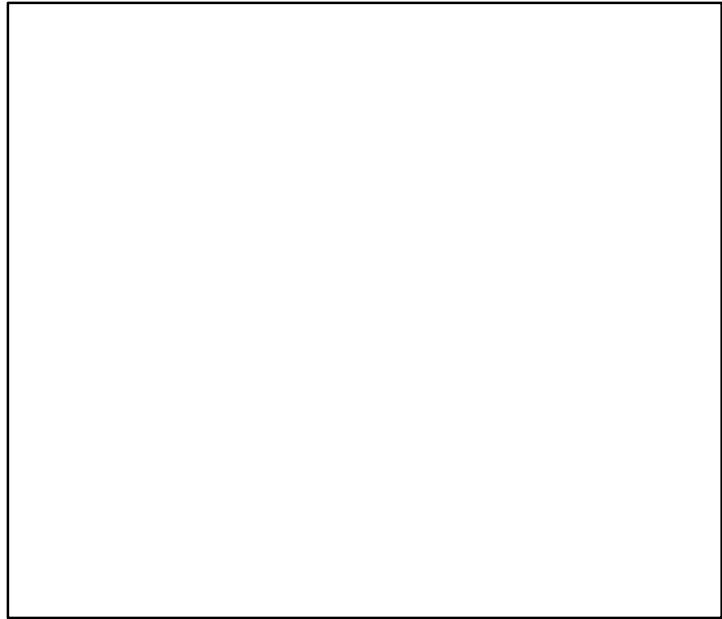
**Kobe MGT\***



**Spawner Recruit\***



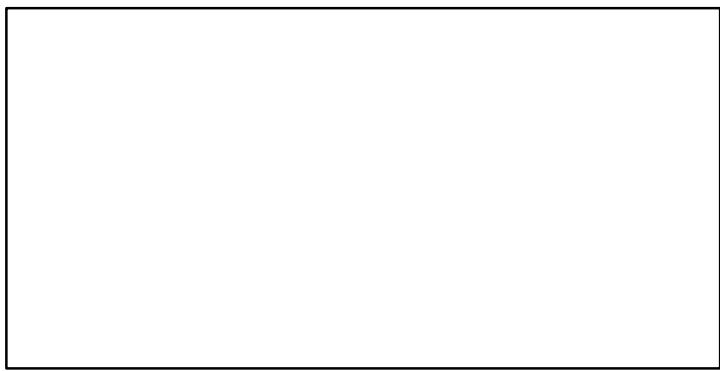
**Production\***



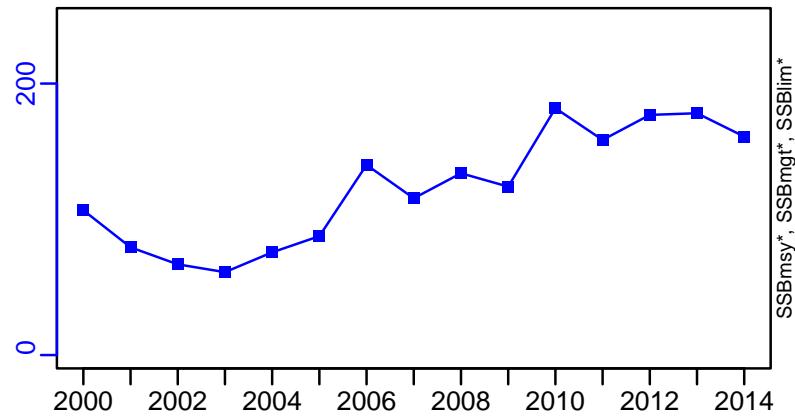
◆ Start Year ♦ End Year \* No Data

Tusk Northeast Atlantic [CUSKNEATL]

**TB\***



SSB-index (1988–2014–ICESIMP2018)



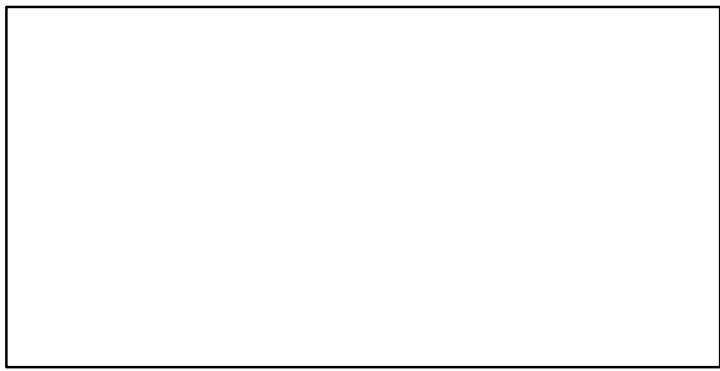
**TN \***



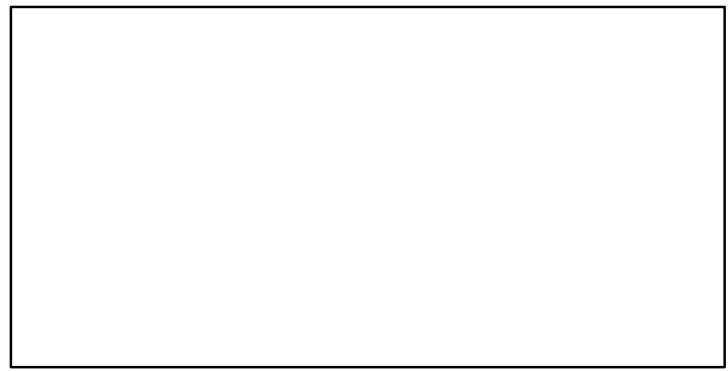
**F\***



**ER\***



**Recruits\***

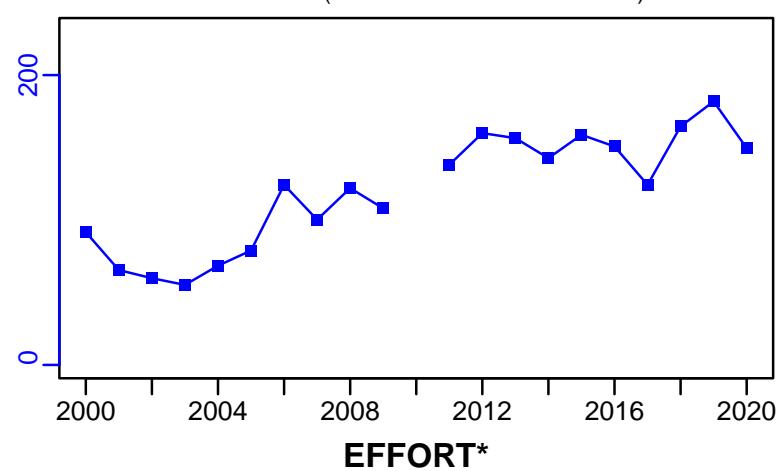
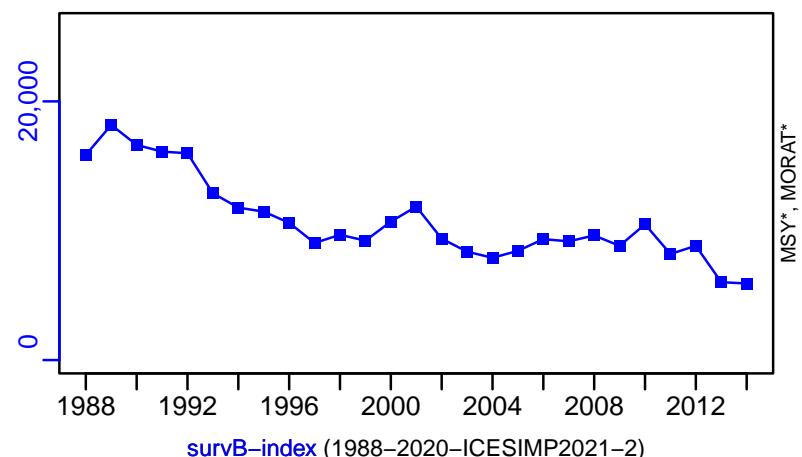


- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>■ Listed time series</li> <li>— Target BRP</li> <li>— MSY-based BRP</li> <li>— Lim BRP</li> </ul> | <ul style="list-style-type: none"> <li>— Rec-Est</li> <li>* No Data</li> </ul> |
|--|--|

Tusk Northeast Atlantic [CUSKNEATL]

TC-MT, TL\*, RecC\* (1988–2014–ICESIMP2018)

TAC\*, Cpair\*, Cadv\*



EFFORT\*

CPUE\*

CdivMSY\*

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

## Tusk ICES 5a-14 [CUSKVa-XIV]

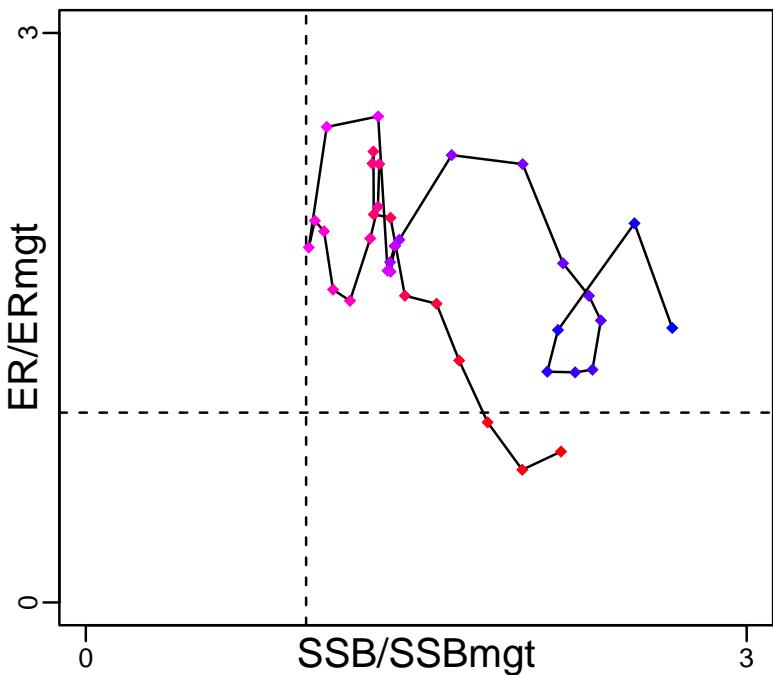
<b>Metadata</b>	
<b>Scientific Name</b>	Brosme brosme
<b>Current Assess ID</b>	WGDEEP-CUSKVa-XIV-1982-2021-ICESIMP2021-2
<b>Area</b>	ICES 5a-14
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources
<b>Asmts in RAM</b>	2019, 2014, 2017, 2018, 2015, 2016, 2020, 2021

<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2016	0.2
<b>ERrmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2019	6240
<b>Fmgt</b>	Fmgt-1/yr	2016	0.2
<b>ERmgt</b>	ERmgt-ratio	2019	0.13
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2021	4460
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

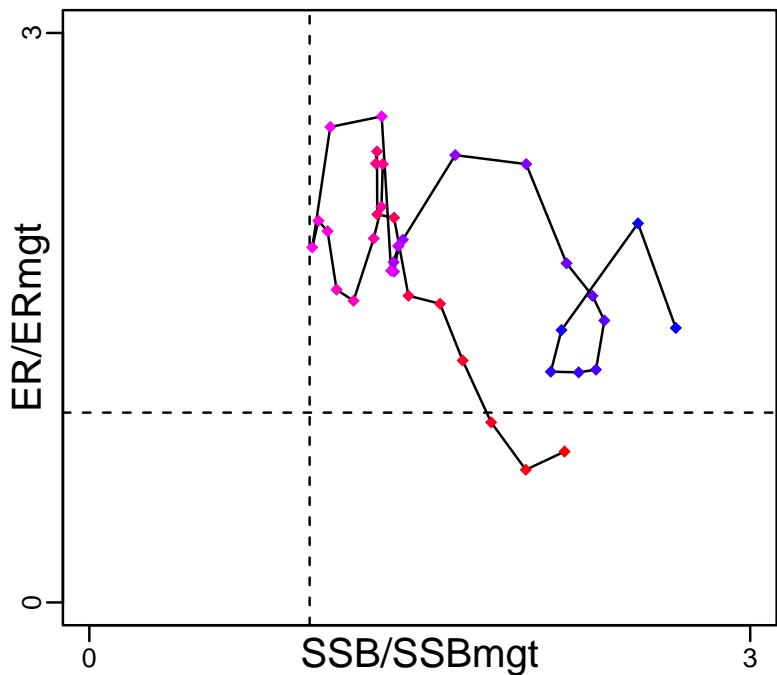
<b>Time Series</b>					
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Curr Value</b>	<b>Sex</b>	<b>Age</b>
<b>TB</b>	TB-MT	2019	37,093	-	-
<b>SSB</b>	SSB-MT	2021	6500	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2021	10,900	-	3
<b>F</b>	F-1/yr	2016	0.22	-	-
<b>ER</b>	ER-ratio	2021	0.215	-	-
<b>TC</b>	TC-MT	2021	3420		
<b>TL</b>	TL-MT	2021	3420		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2016	1.1		
<b>ER/ERrmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2019	2.267		
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2016	1.1		
<b>ER/ERmgt</b>	-	-	-		

Tusk ICES 5a–14 [CUSKVa–XIV]

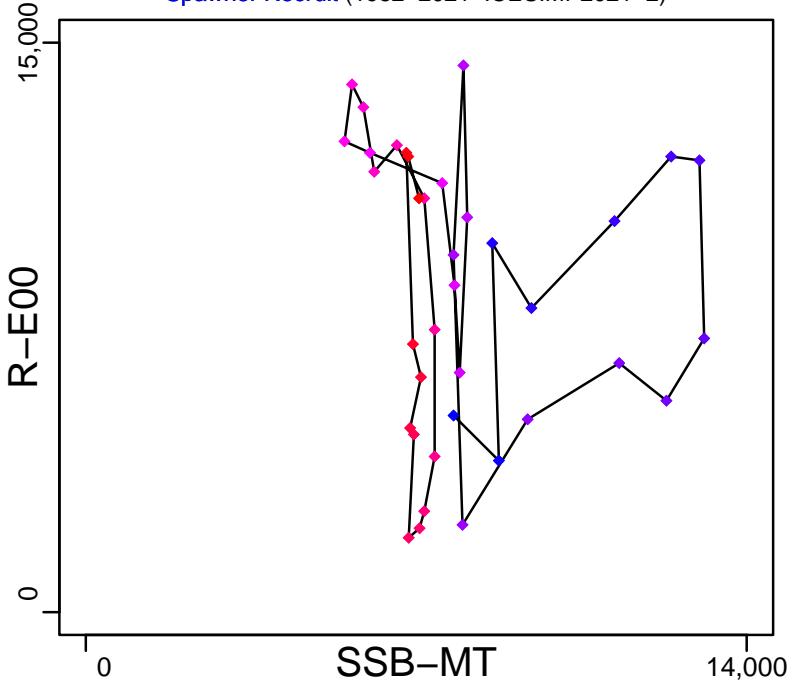
Kobe MSYpref (1973–2019–ICESIMP2021)



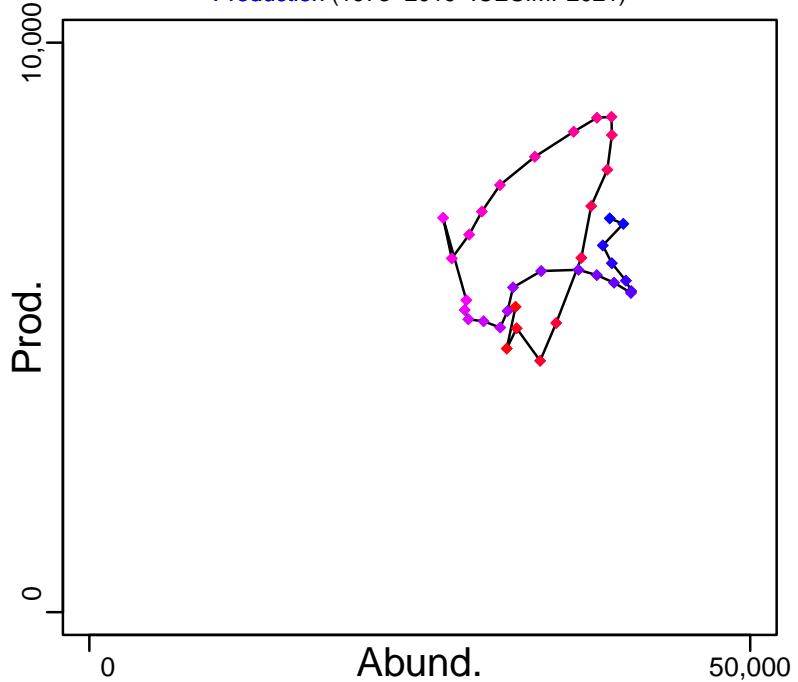
Kobe MGTpref (1973–2019–ICESIMP2021)



Spawner Recruit (1982–2021–ICESIMP2021–2)



Production (1973–2019–ICESIMP2021)

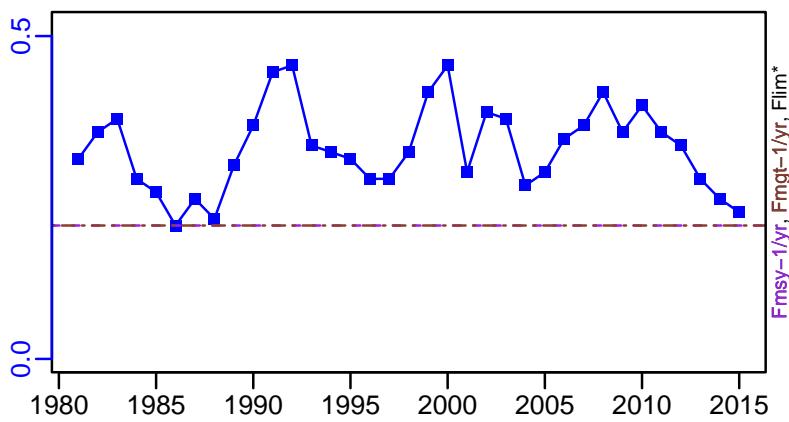
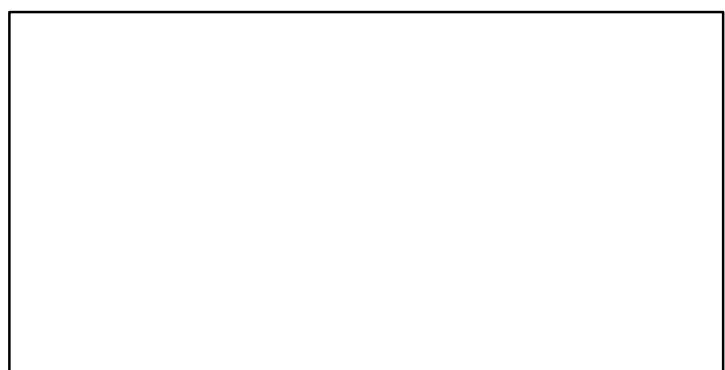
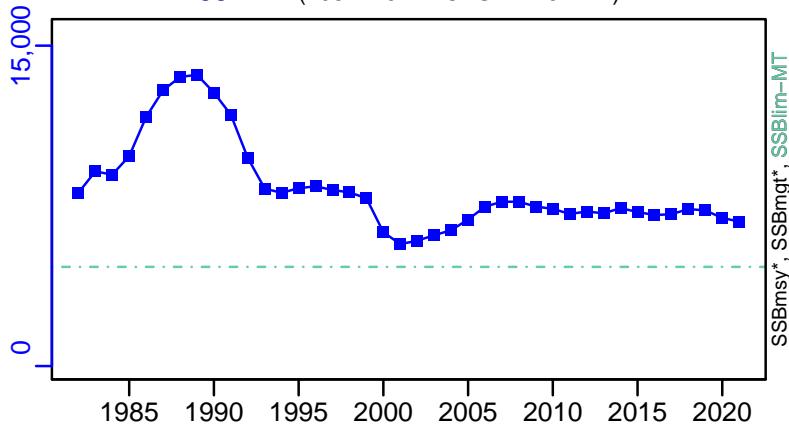
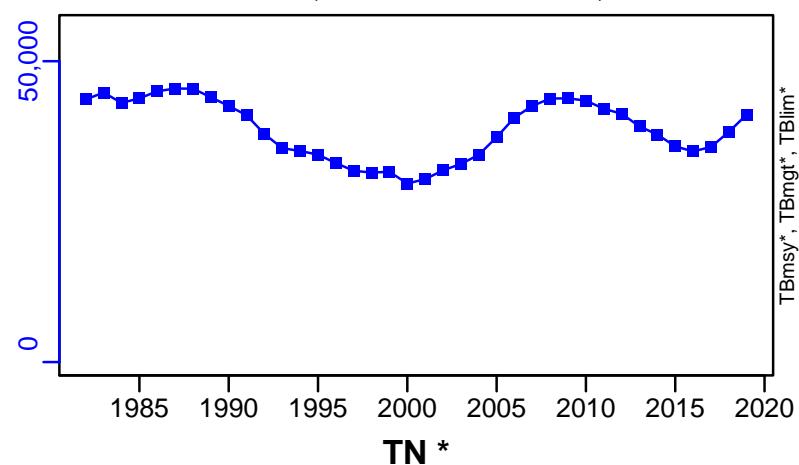


◆ Start Year ◆ End Year \* No Data

Tusk ICES 5a–14 [CUSKVa–XIV]

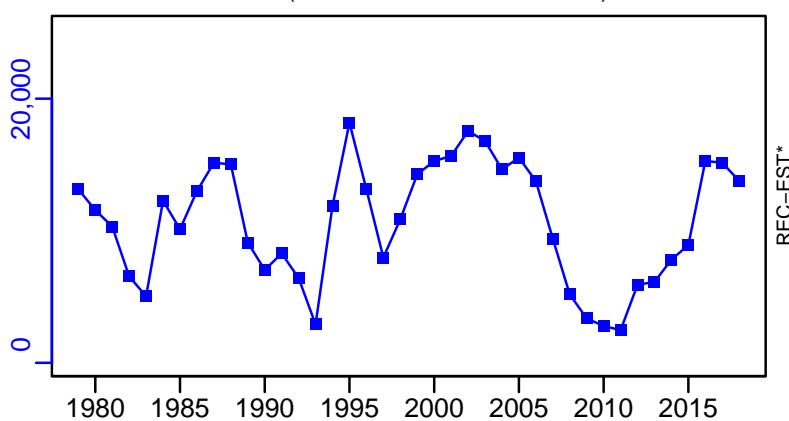
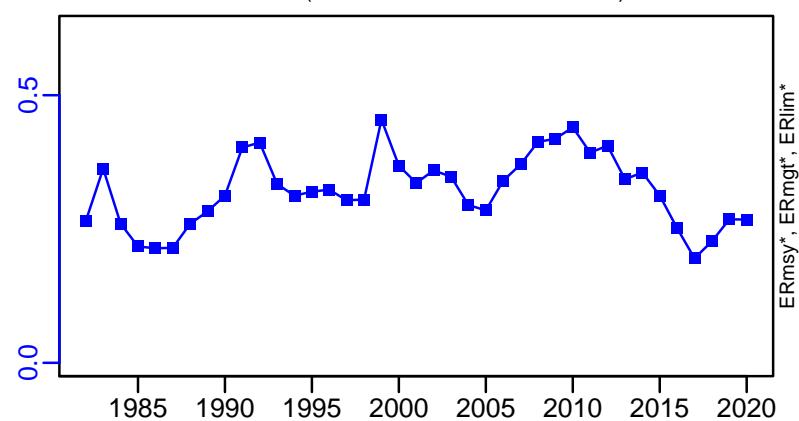
TB-MT (1973–2019–ICESIMP2021)

SSB-MT (1982–2021–ICESIMP2021–2)



ER-ratio (1982–2021–ICESIMP2021–2)

R-E00 (1982–2021–ICESIMP2021–2)

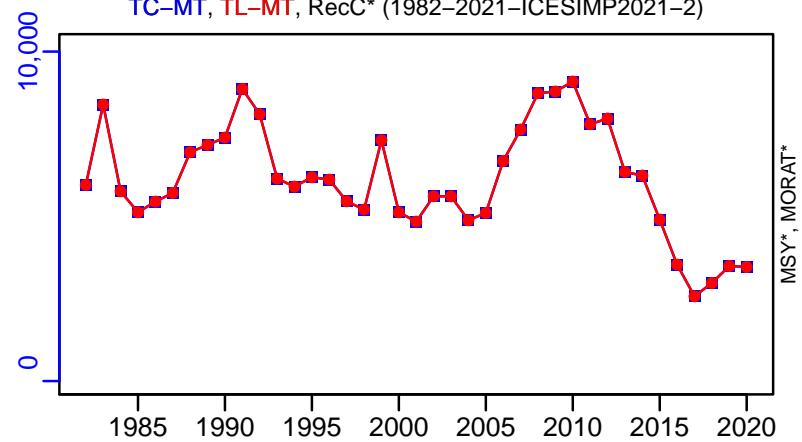


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	- - Lim BRP	* No Data

Tusk ICES 5a–14 [CUSKVa–XIV]

TC–MT, TL–MT, RecC\* (1982–2021–ICESIMP2021–2)

TAC\*, Cpair\*, Cadv\*



survB\*

CPUE\*

EFFORT\*

CdivMSY\*

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

## Tusk Rockall Bank [CUSKVIb]

<b>Metadata</b>	
<b>Scientific Name</b>	Brosme brosme
<b>Current Assess ID</b>	WGDEEP-CUSKVIb-1988-2019-ICESIMP2021-2
<b>Area</b>	Rockall Bank
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources
<b>Asmts in RAM</b>	2016, 2017, 2019

<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<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>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<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>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	-	-	-		
<b>TL</b>	TL-MT	2019	100		
<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\***

◆ Start Year ♦ End Year \* No Data

**TB\***



**SSB\***



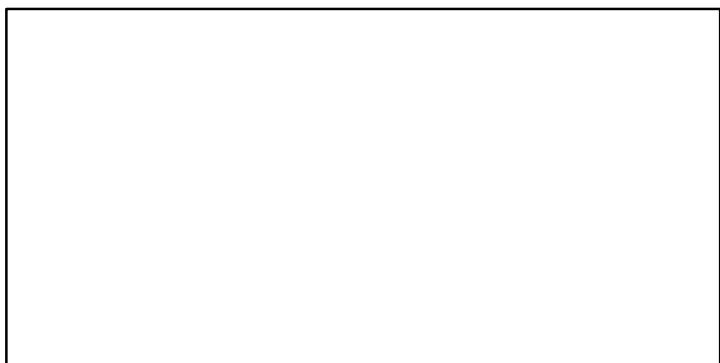
**TN \***



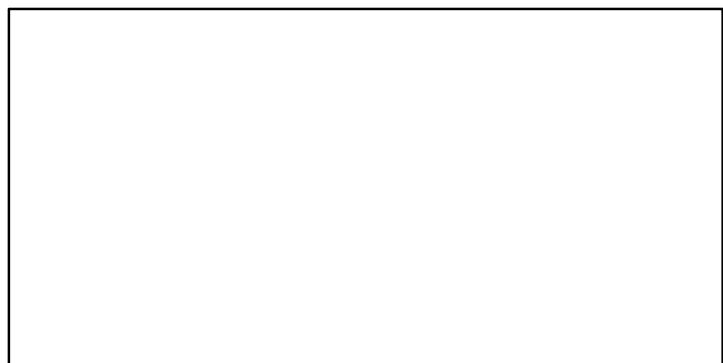
**F\***



**ER\***



**Recruits\***

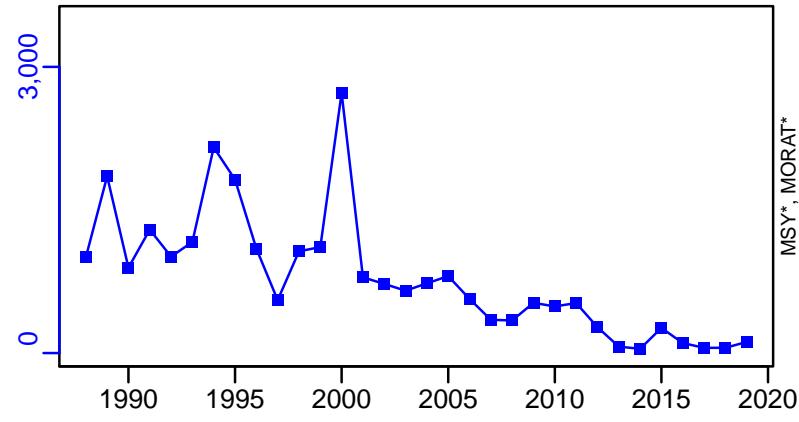


- |       |                    |       |            |   |         |
|-------|--------------------|-------|------------|---|---------|
| ■     | Listed time series | - - - | Target BRP | — | Rec-Est |
| - - - | MSY-based BRP      | - - - | Lim BRP    | * | No Data |

Tusk Rockall Bank [CUSKVIb]

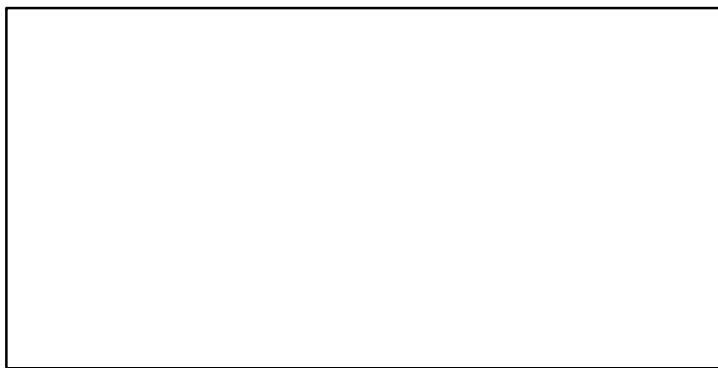
TL-MT, TC\*, RecC\* (1988–2019–ICESIMP2021–2)

TAC\*, Cpair\*, Cadv\*

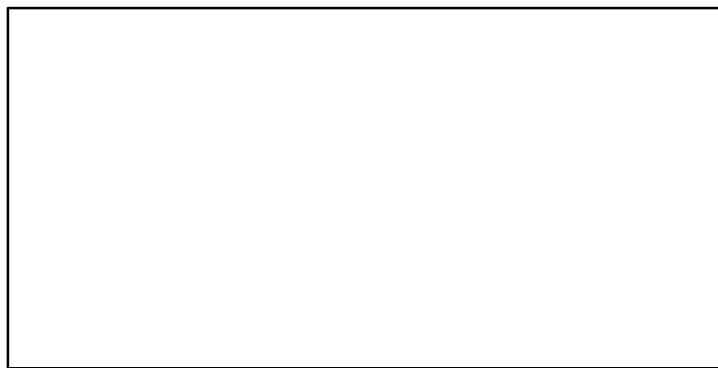


survB\*

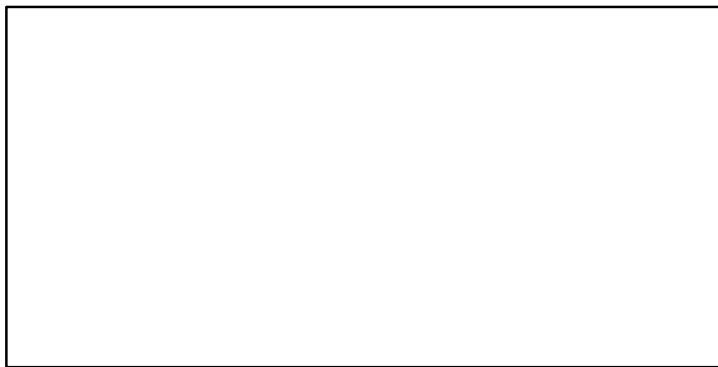
MSY\*, MORAT\*



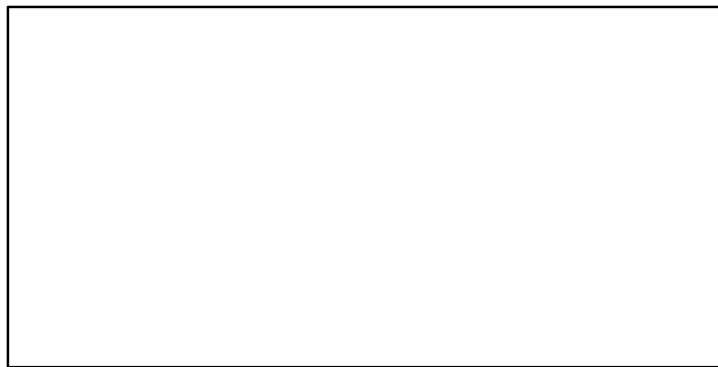
CPUE\*



EFFORT\*



CdivMSY\*



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

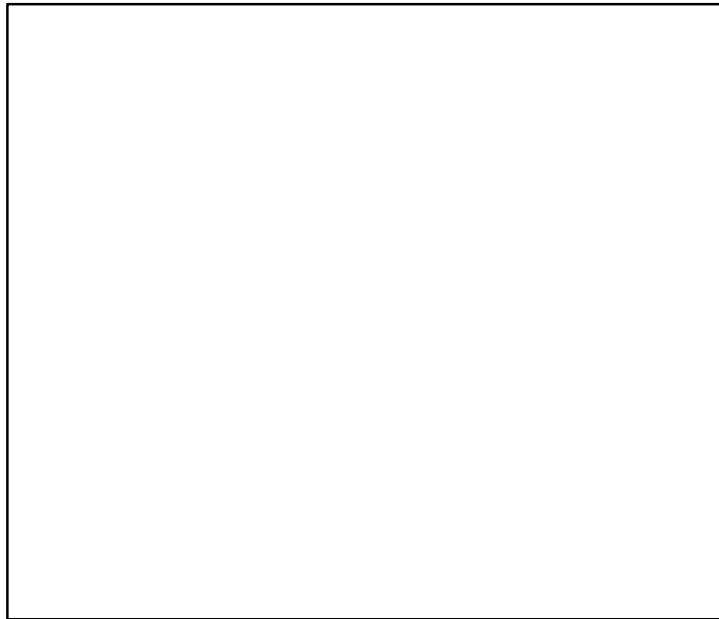
## Tusk North of Azores [CUSKXII]

<b>Metadata</b>	
<b>Scientific Name</b>	Brosme brosme
<b>Current Assess ID</b>	WGDEEP-CUSKXII-1988-2018-ICESIMP2021
<b>Area</b>	North of Azores
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources
<b>Asmts in RAM</b>	2015, 2016, 2018

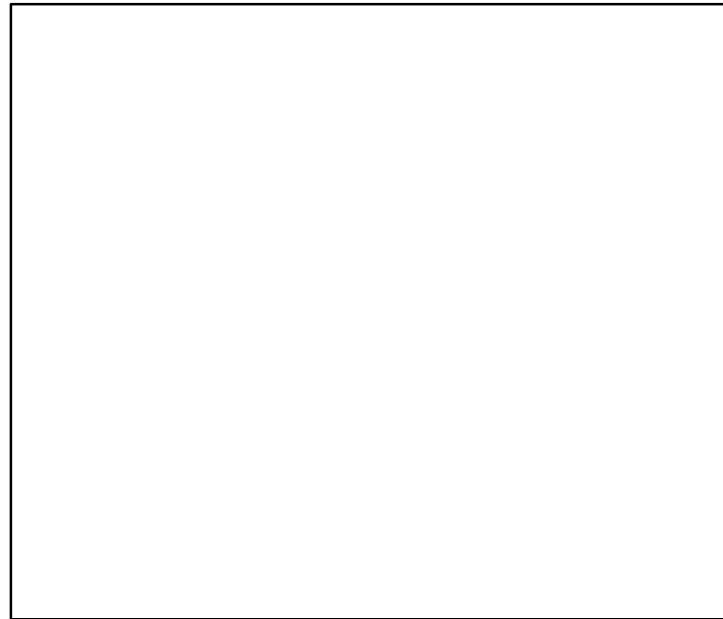
<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<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>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	-	-	-		
<b>TL</b>	TL-MT	2018	0		
<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>	-	-	-		

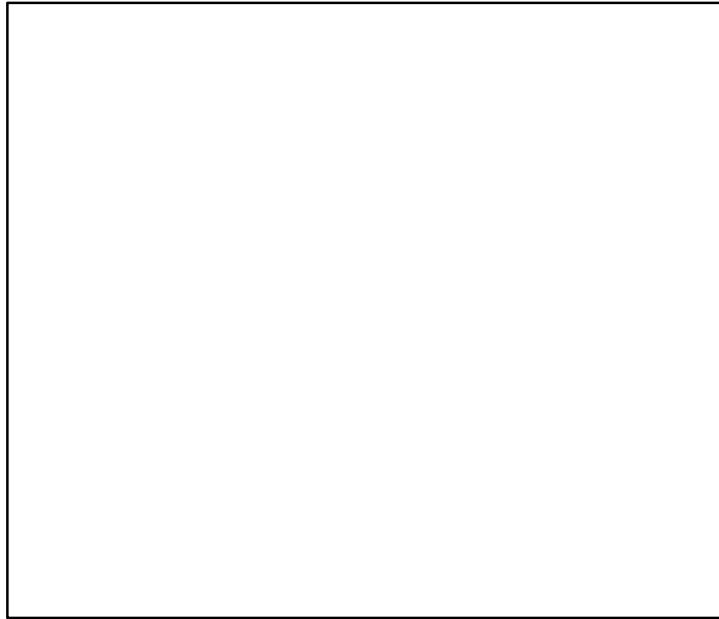
**Kobe MSY\***



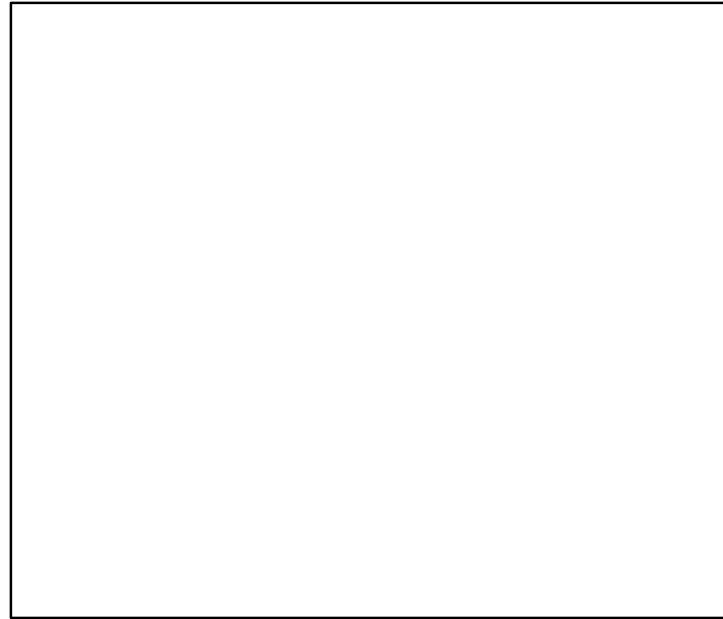
**Kobe MGT\***



**Spawner Recruit\***



**Production\***



◆ Start Year ♦ End Year \* No Data

Tusk North of Azores [CUSKXII]

**TB\***



**SSB\***



**TN \***



**F\***



**ER\***



**Recruits\***

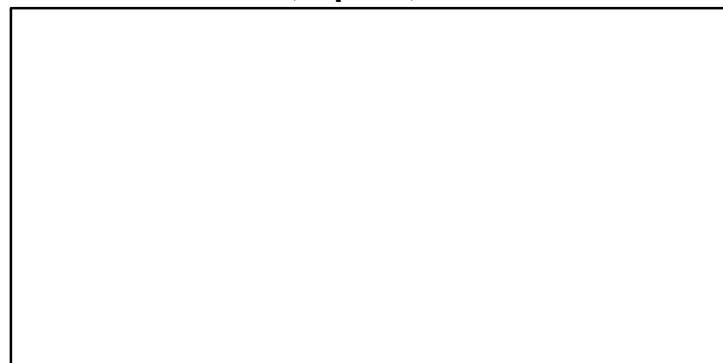
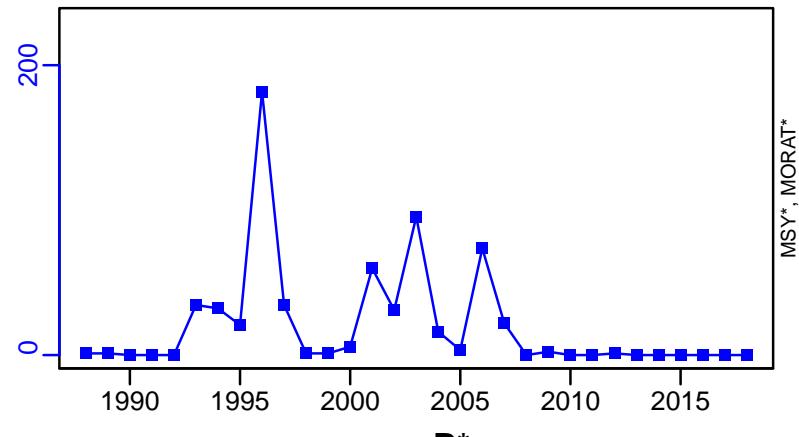


- |       |                    |       |            |   |         |
|-------|--------------------|-------|------------|---|---------|
| ■     | Listed time series | - - - | Target BRP | — | Rec-Est |
| - - - | MSY-based BRP      | - - - | Lim BRP    | * | No Data |

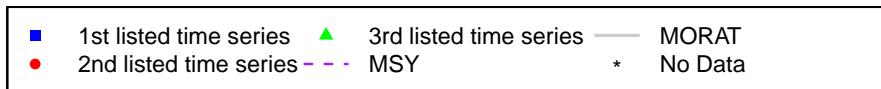
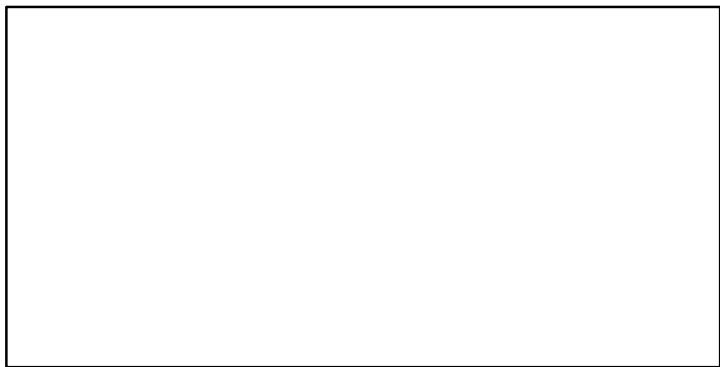
**Tusk North of Azores [CUSKXII]**

TL-MT, TC\*, RecC\* (1988–2018–ICESIMP2021)

**TAC\*, Cpair\*, Cadv\***



**EFFORT\***



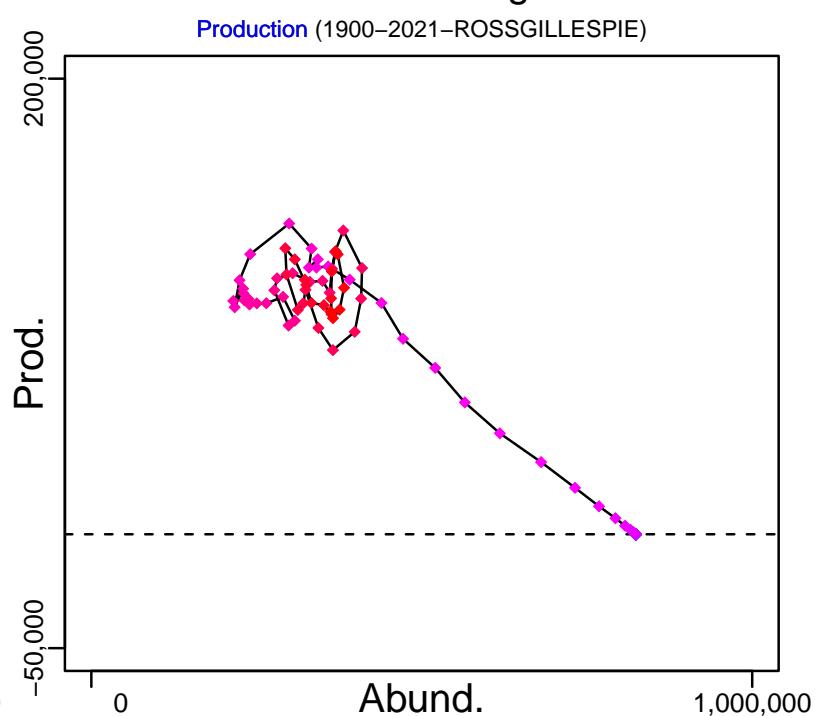
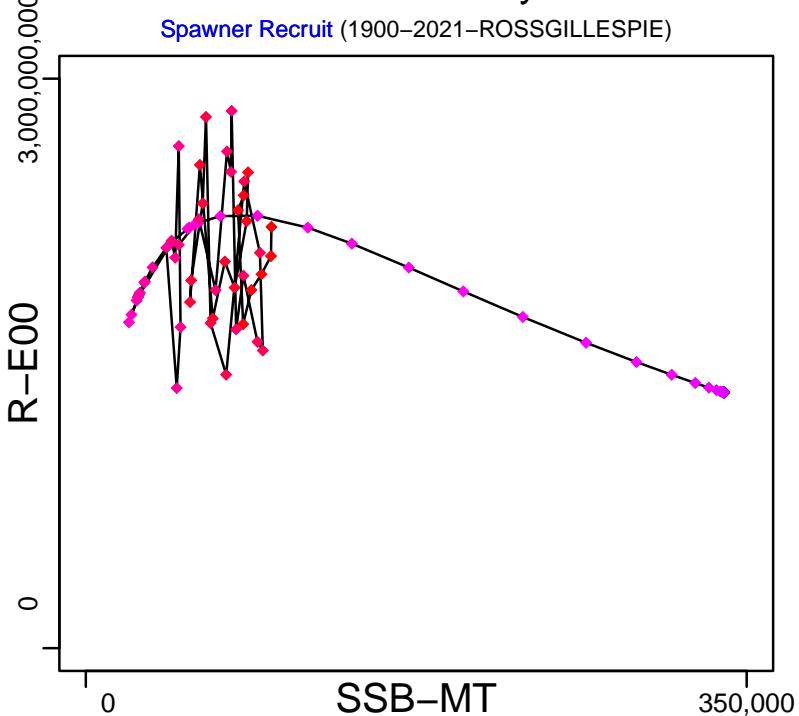
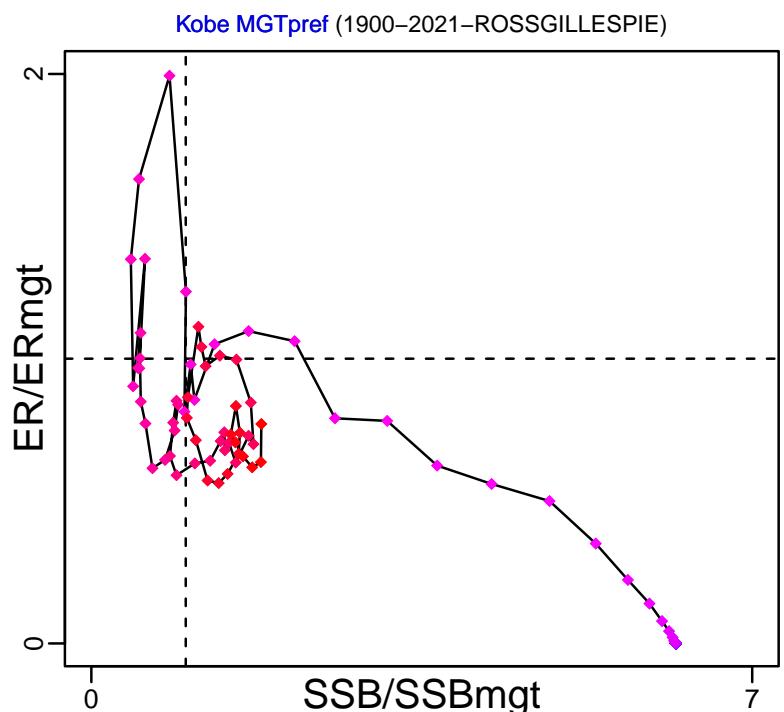
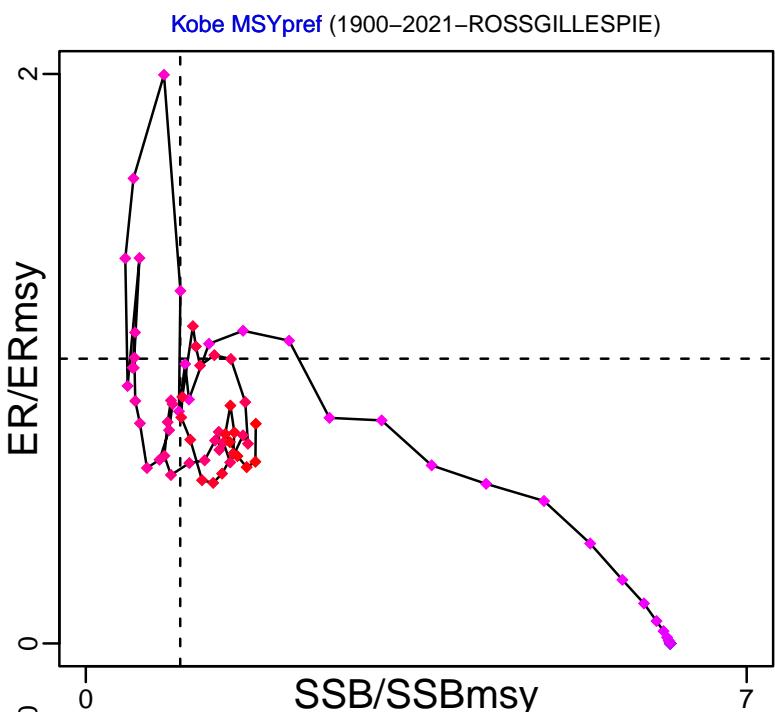
## Deep water cape hake South Africa [DEEPCHAKESA]

<b>Metadata</b>	
<b>Scientific Name</b>	Merluccius paradoxus
<b>Current Assess ID</b>	MARAM-DEEPCHAKESA-1900-2021-ROSSGILLESPIE
<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>	2021, 2013, 2015

<b>Reference Points</b>				
Type	ID	Asmt Year	Value	
<b>TBmsy</b>	TBmsy-calc-MT	2021	213,089	
<b>SSBmsy</b>	SSBmsy-MT	2021	54,592	
<b>Fmsy</b>	-	-	-	
<b>ERrmsy</b>	ERrmsy-ratio	2021	0.65	
<b>TBmgt</b>	-	-	-	
<b>SSBmgt</b>	SSBmgt-MT	2021	54,592	
<b>Fmgt</b>	-	-	-	
<b>ERmgt</b>	ERmgt-ratio	2021	0.65	
<b>TB0</b>	TB0-MT	2021	823,978	
<b>SSB0</b>	SSB0-MT	2021	337,964	
<b>MSY</b>	MSY-MT	2021	138,508	
<b>M</b>	M-1/yr	2021	0.52	
<b>TBlim</b>	TBlim-MT	2013	60,000	
<b>SSBlim</b>	SSBlim-MT	2021	22,825	
<b>Flim</b>	-	-	-	
<b>ERlim</b>	-	-	-	

<b>Time Series</b>					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2021	363,527	Both	0+
<b>SSB</b>	SSB-MT	2021	98,302	Females	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2021	2,219,440,000	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2021	0.501	Both	0+
<b>TC</b>	TC-MT	2021	110,377		
<b>TL</b>	TL-MT	2021	110,377		
<b>TB/TBmsy</b>	TB-MT/TBmsy-calc-MT	2021	1.706		
<b>SSB/SSBmsy</b>	SSBdivSSBmsy-dimensionless	2021	1.801		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERrmsy</b>	ERdivERrmsy-dimensionless	2021	0.771		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2021	1.801		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

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

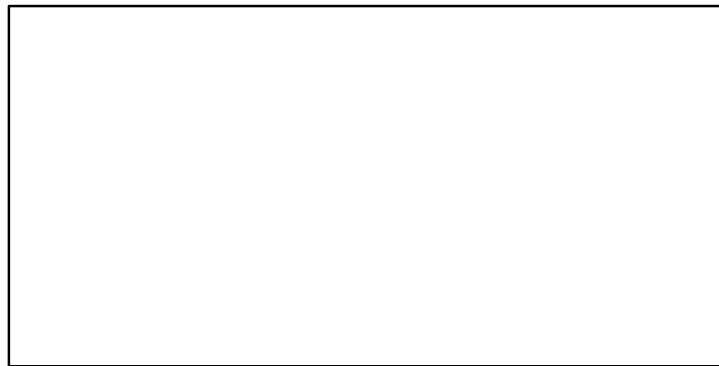
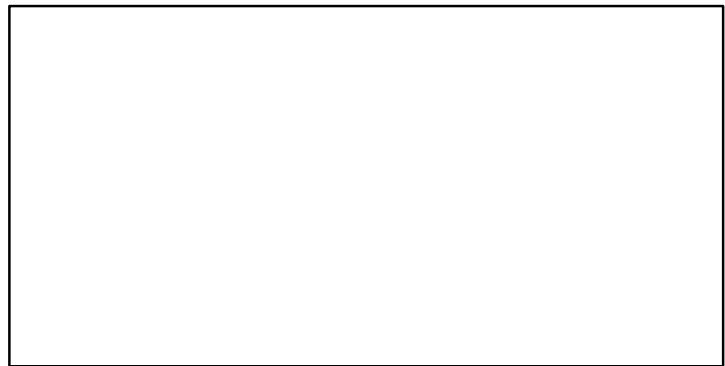
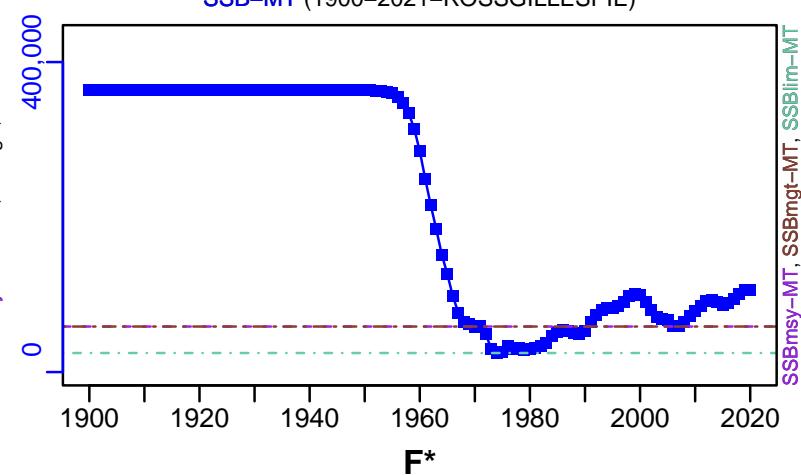
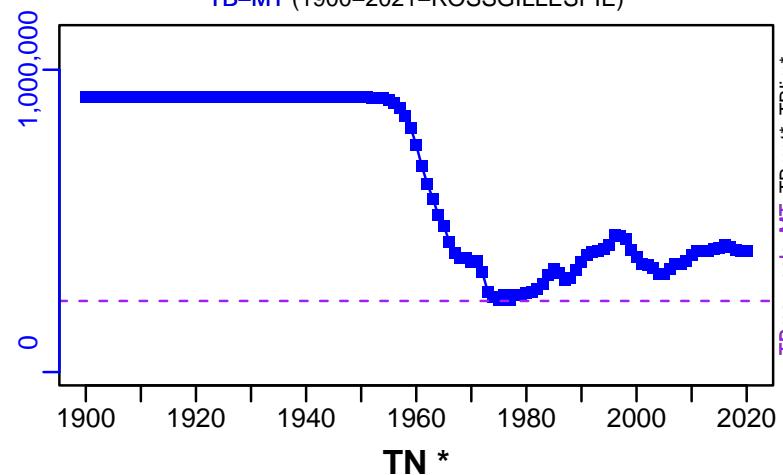


◆ Start Year	◆ End Year	*	No Data
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### Deep water cape hake South Africa [DEEPCHAKESA]

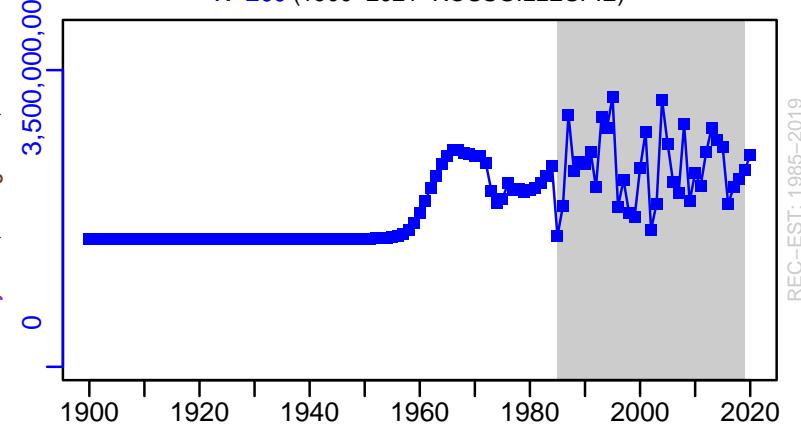
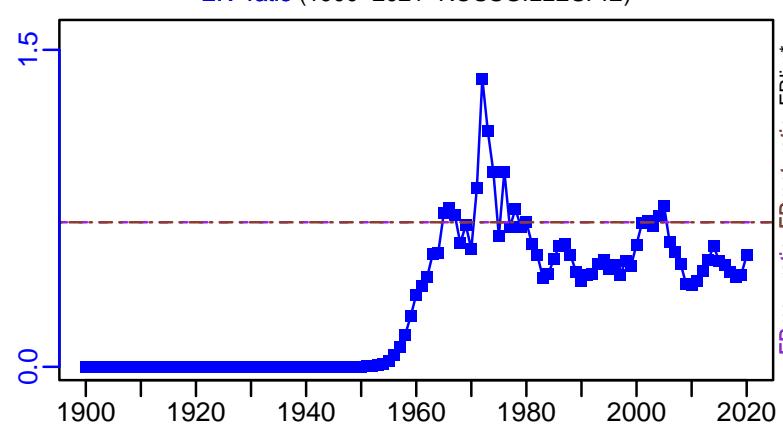
TB-MT (1900–2021–ROSSGILLESPIE)

SSB-MT (1900–2021–ROSSGILLESPIE)



ER-ratio (1900–2021–ROSSGILLESPIE)

R-E00 (1900–2021–ROSSGILLESPIE)



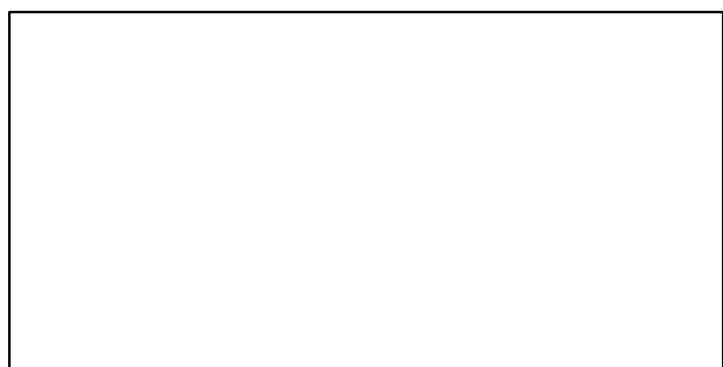
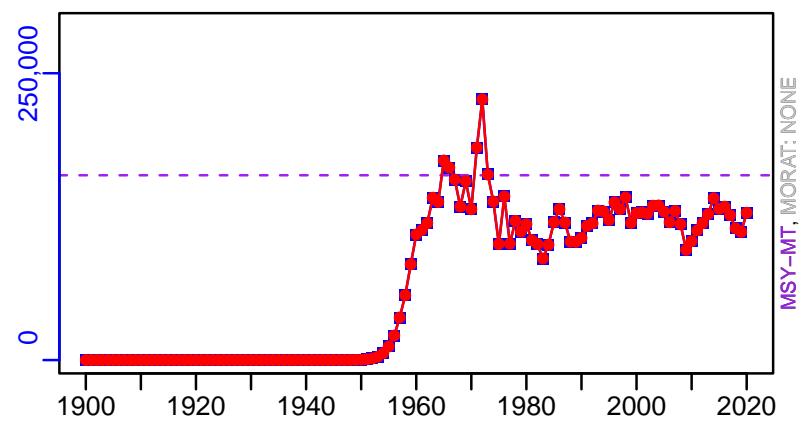
■ Listed time series	— Target BRP	— Rec-Est
- - - MSY-based BRP	- - - Lim BRP	* No Data

REC-EST: 1985–2019

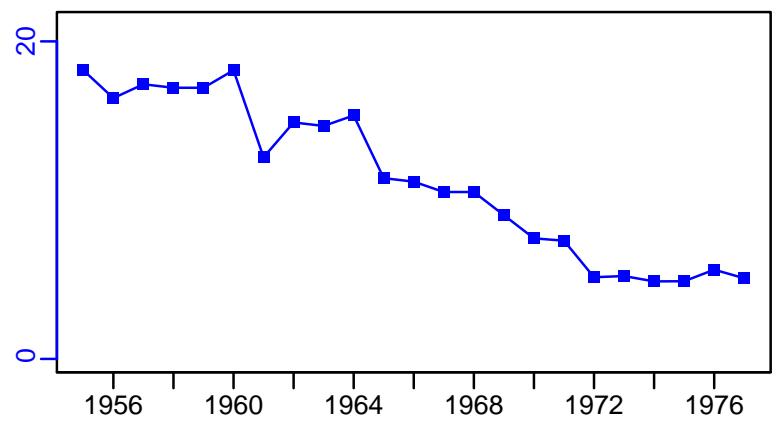
Deep water cape hake South Africa [DEEPCHAKESA]

TC-MT, TL-MT, RecC\* (1900–2021–ROSSGILLESPIE)

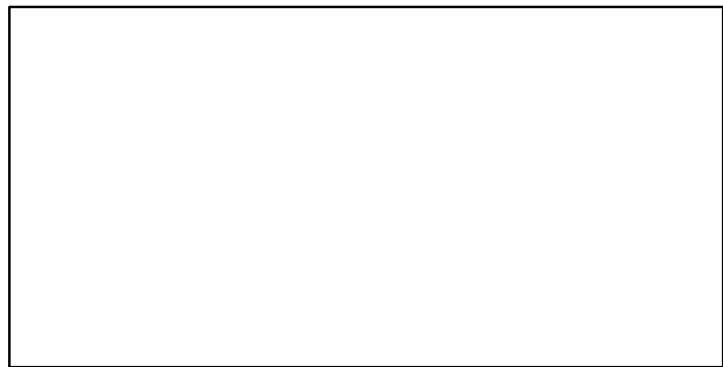
TAC\*, Cpair\*, Cadv\*



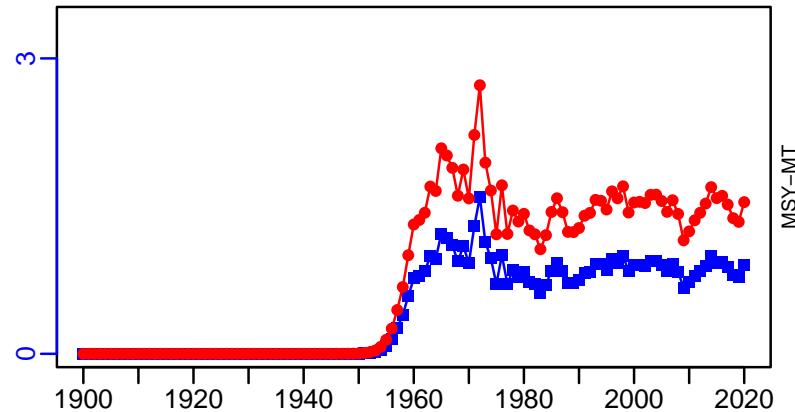
CPUE-index (1900–2021–ROSSGILLESPIE)



EFFORT\*



TC-MT/MSY-MT, CdivMEANC-ratio, (1900–2021–ROSSGILLESPIE)



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

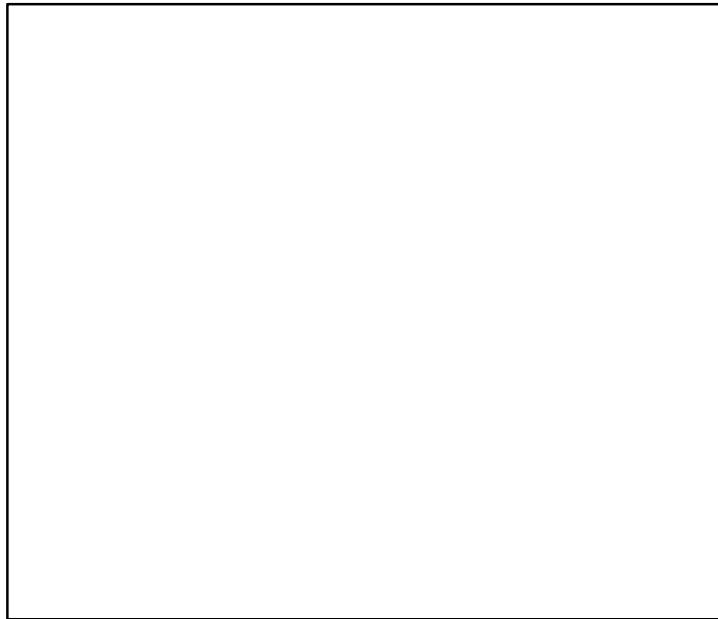
## European pollack ICES 3a-4 [EPOLLIV-IIIa]

<b>Metadata</b>	
<b>Scientific Name</b>	Pollachius pollachius
<b>Current Assess ID</b>	WGNSSK-EPOLLIV-IIIa-1977-2020-ICESIMP2021-2
<b>Area</b>	ICES 3a-4
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak
<b>Asmts in RAM</b>	2016, 2017, 2020

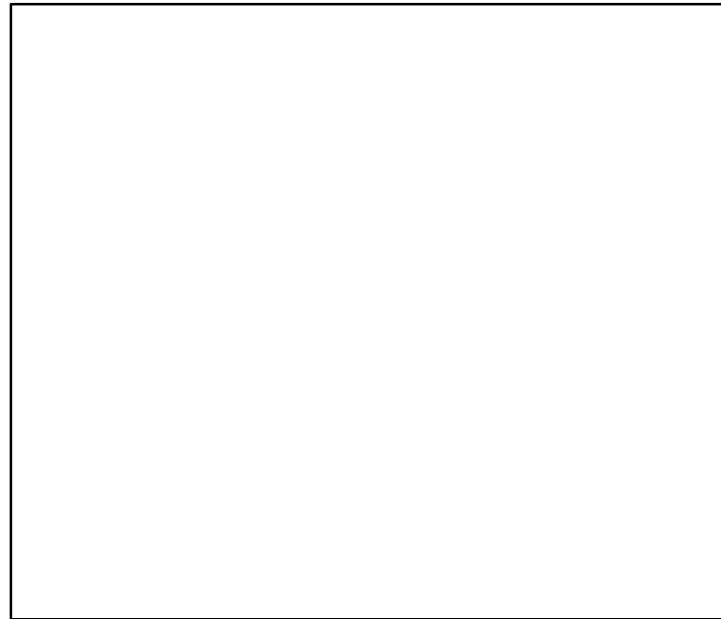
<b>Reference Points</b>			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>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

<b>Time Series</b>					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2017	1910		
<b>TL</b>	TL-MT	2020	2620		
<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\*



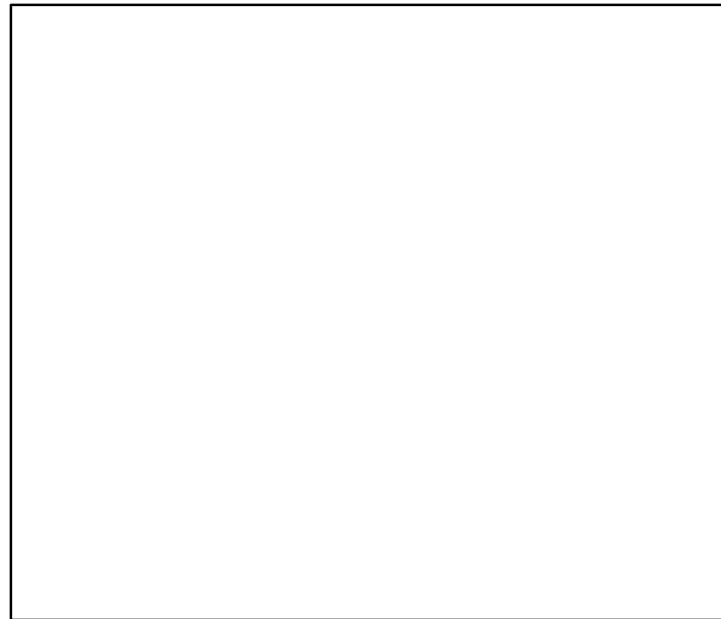
Kobe MGT\*



Spawner Recruit\*



Production\*



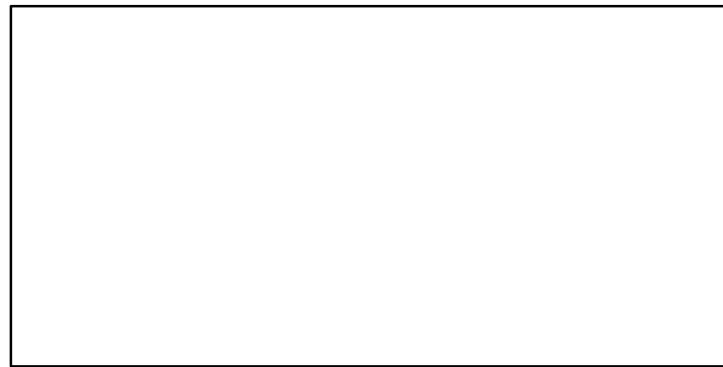
◆ Start Year ♦ End Year \* No Data

European pollack ICES 3a–4 [EPOLLIV–IIIa]

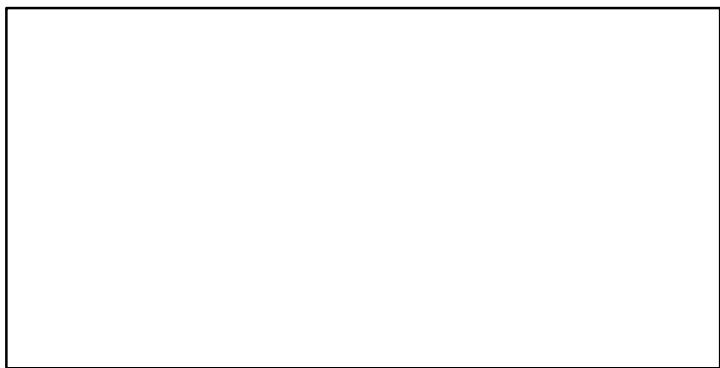
**TB\***



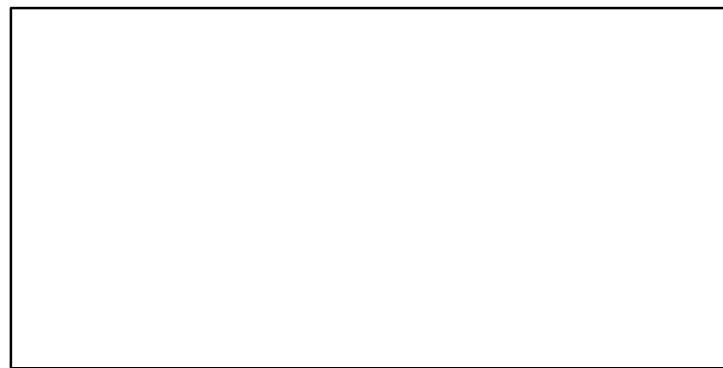
**SSB\***



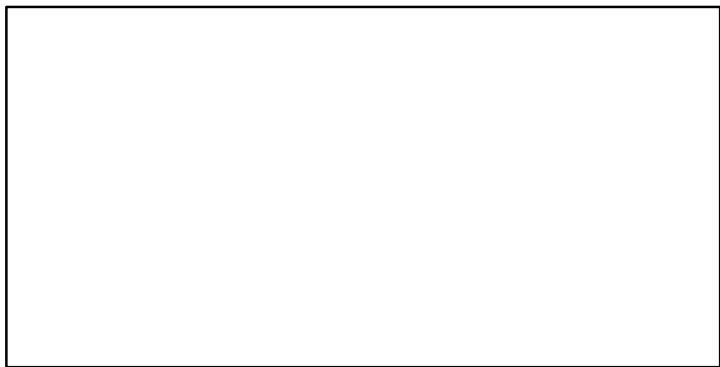
**TN \***



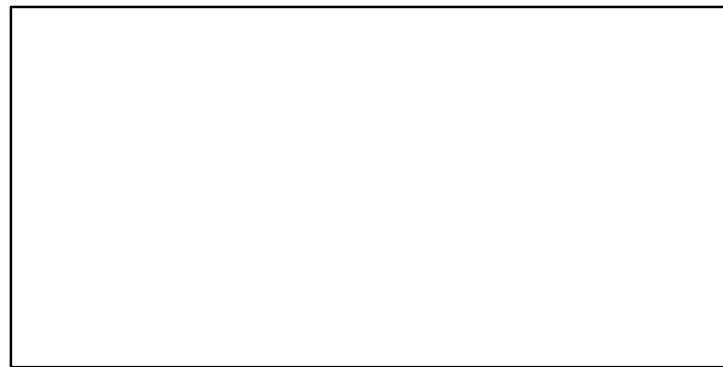
**F\***



**ER\***



**Recruits\***

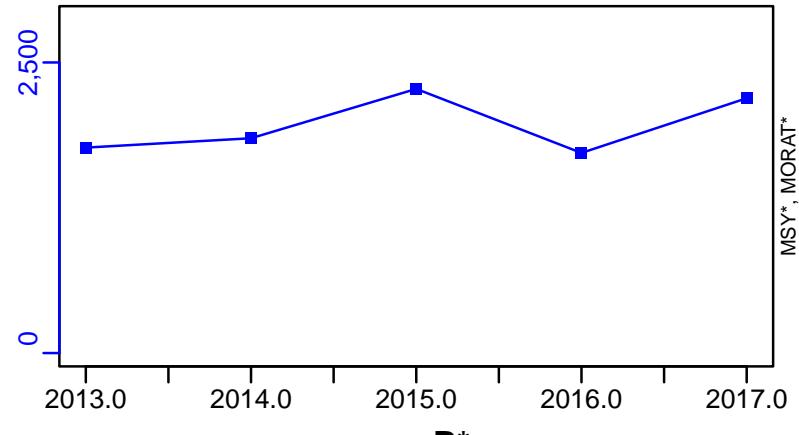


- |                      |                  |           |
|----------------------|------------------|-----------|
| ■ Listed time series | - - - Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP    | * No Data |

European pollack ICES 3a–4 [EPOLLIV–IIIa]

TC–MT, TL\*, RecC\* (1977–2017–ICESIMP2018)

TAC\*, Cpair\*, Cadv\*



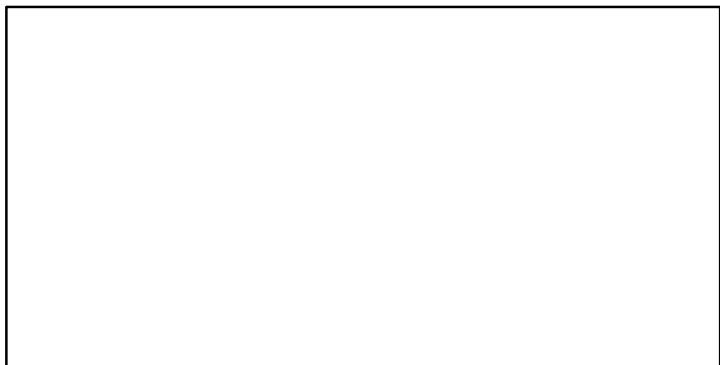
survB\*



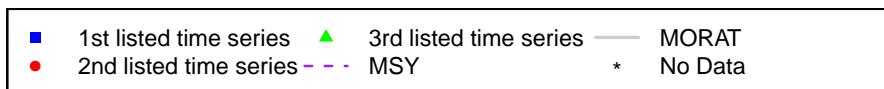
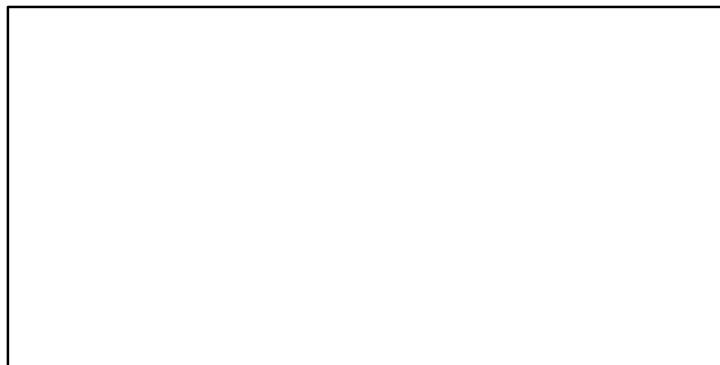
CPUE\*



EFFORT\*



CdivMSY\*



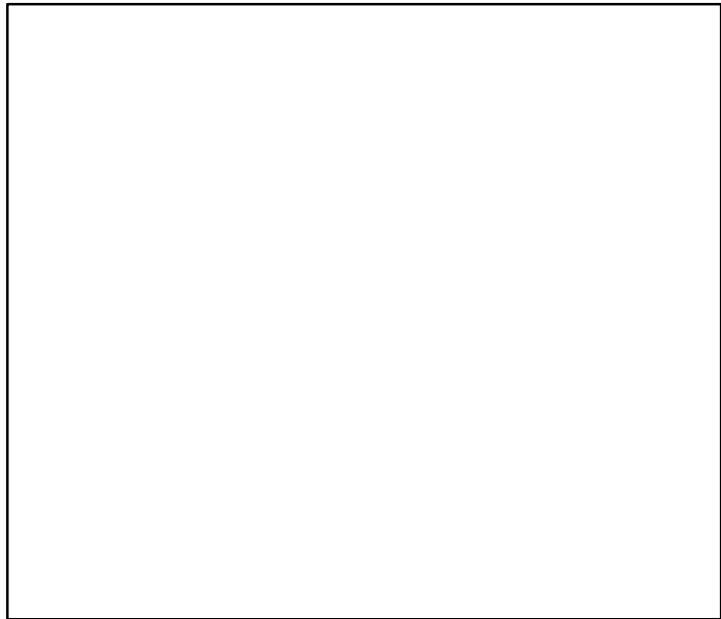
## European pollack ICES 8-9a [EPOLLVIII-IXa]

<b>Metadata</b>	
<b>Scientific Name</b>	Pollachius pollachius
<b>Current Assess ID</b>	WGBIE-EPOLLVIII-IXa-1979-2020-ICESIMP2021-2
<b>Area</b>	ICES 8-9a
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group for the Bay of Biscay and the Iberian Waters Ecoregion
<b>Asmts in RAM</b>	2020, 2015, 2016, 2016, 2018

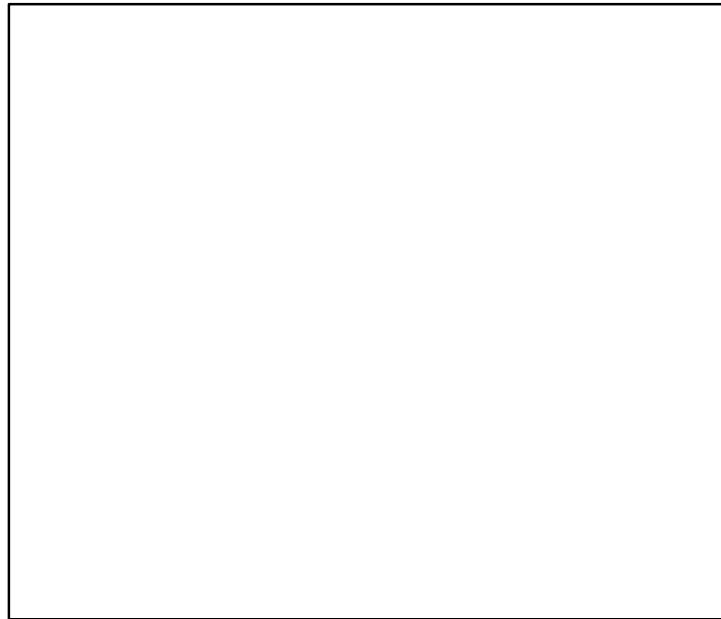
<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<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>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	-	-	-		
<b>TL</b>	TL-MT	2020	1540		
<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>	-	-	-		

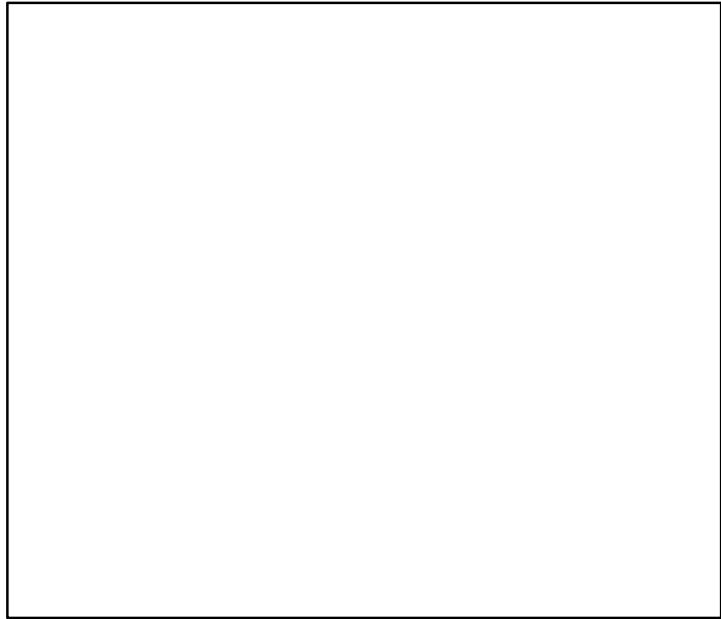
Kobe MSY\*



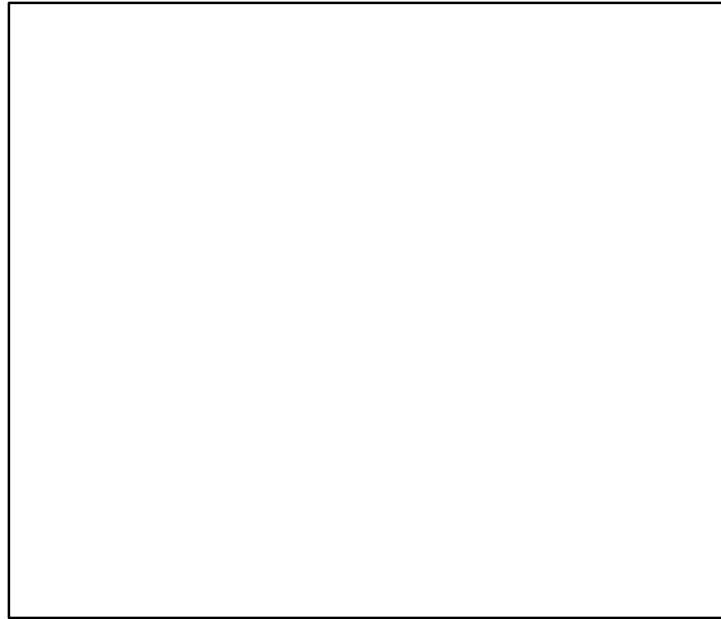
Kobe MGT\*



Spawner Recruit\*



Production\*



◆ Start Year ♦ End Year \* No Data

European pollack ICES 8–9a [EPOLLVIII–IXa]

**TB\***



**SSB\***



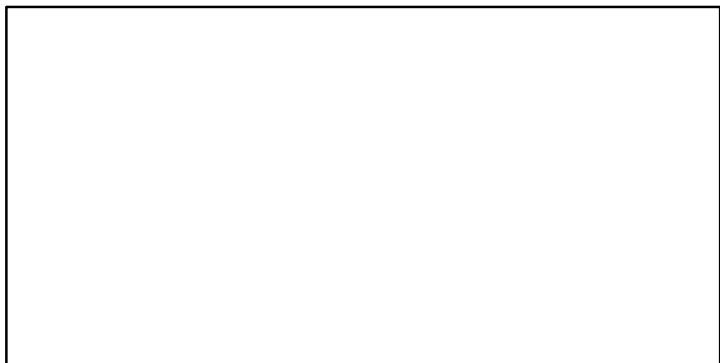
**TN \***



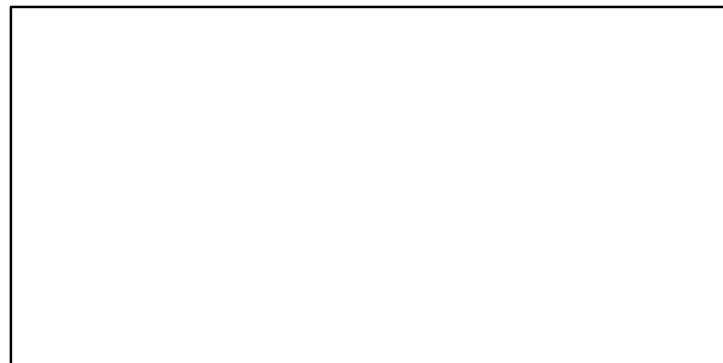
**F\***



**ER\***



**Recruits\***

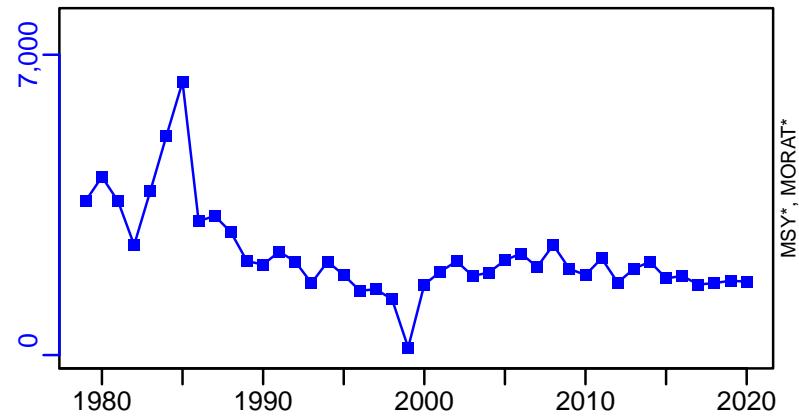


- |                      |                  |           |
|----------------------|------------------|-----------|
| ■ Listed time series | - - - Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP    | * No Data |

European pollack ICES 8–9a [EPOLLVIII–IXa]

TL–MT, TC\*, RecC\* (1979–2020–ICESIMP2021–2)

TAC\*, Cpair\*, Cadv\*



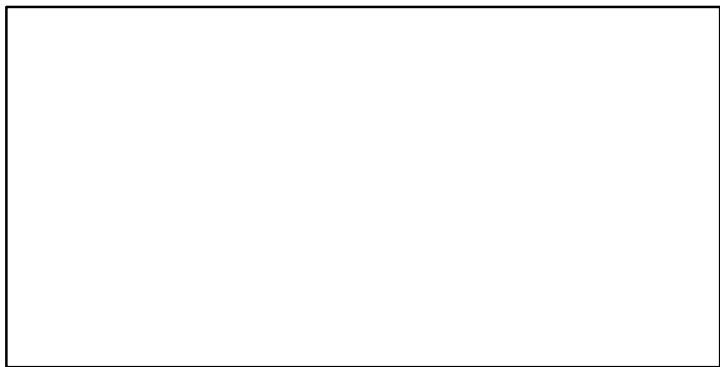
survB\*



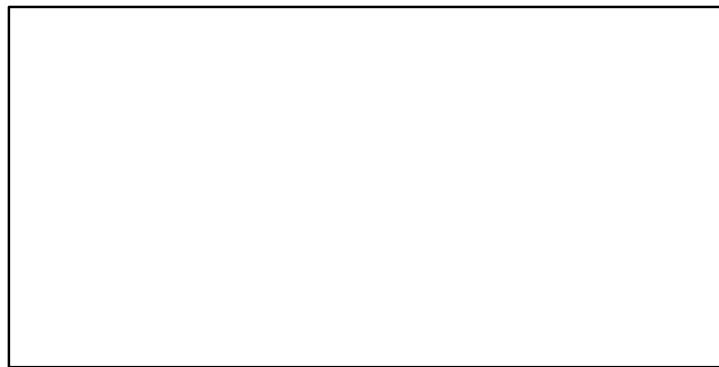
CPUE\*



EFFORT\*



CdivMSY\*



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

## Greater forkbeard Ligurian and North Tyrrhenian Sea [GFORKBMEDGSA9]

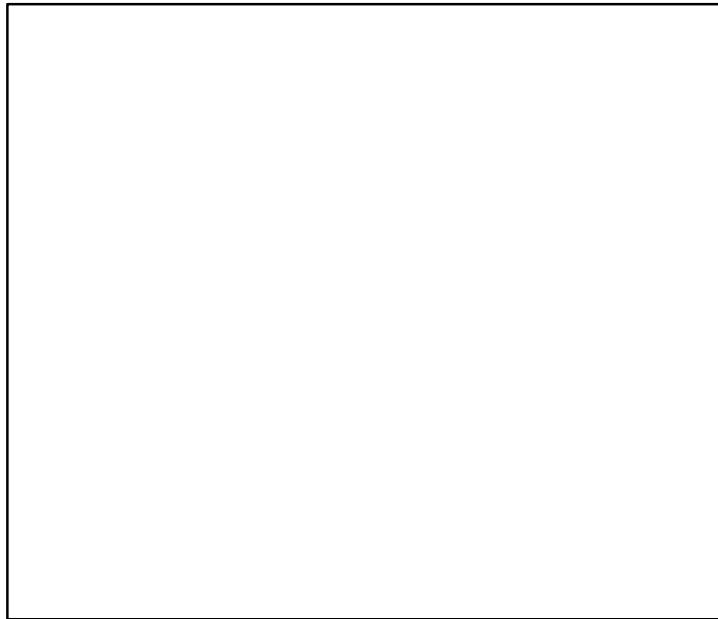
Metadata	
<b>Scientific Name</b>	Phycis blennoides
<b>Current Assess ID</b>	STECF-GFORKBMEDGSA9-2007-2011-OSIO
<b>Area</b>	Ligurian and North Tyrrhenian Sea
<b>Management Authority</b>	General Fisheries Council for the Mediterranean, DG MARE, and national states
<b>Assessor</b>	Scientific, Technical and Economic Committee for Fisheries
<b>Asmts in RAM</b>	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>	Fmgt-1/yr	2011	0.32
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

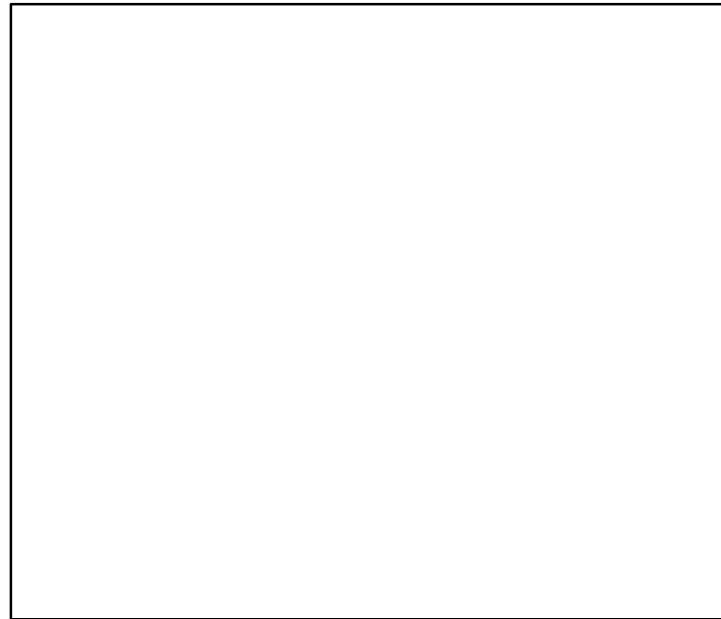
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2011	41		
<b>TL</b>	-	-	-		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

Greater forkbeard Ligurian and North Tyrrhenian Sea [GFORKBMEDGSA9]

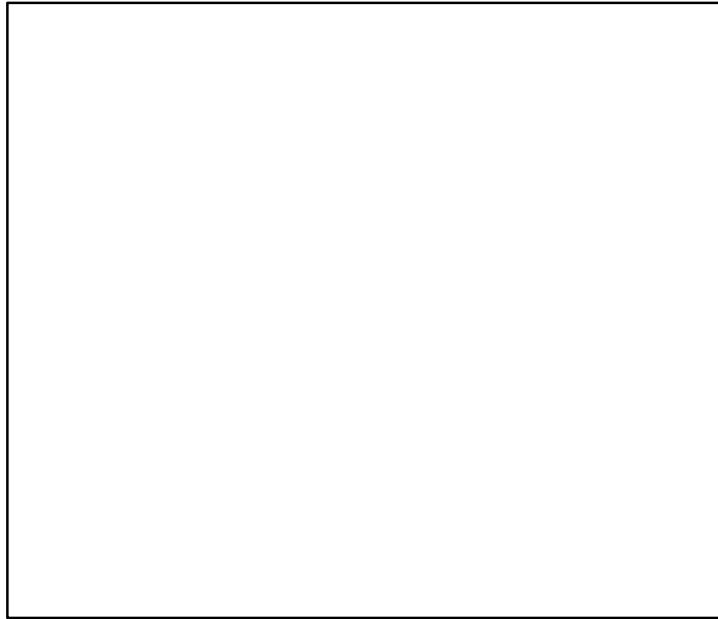
**Kobe MSY\***



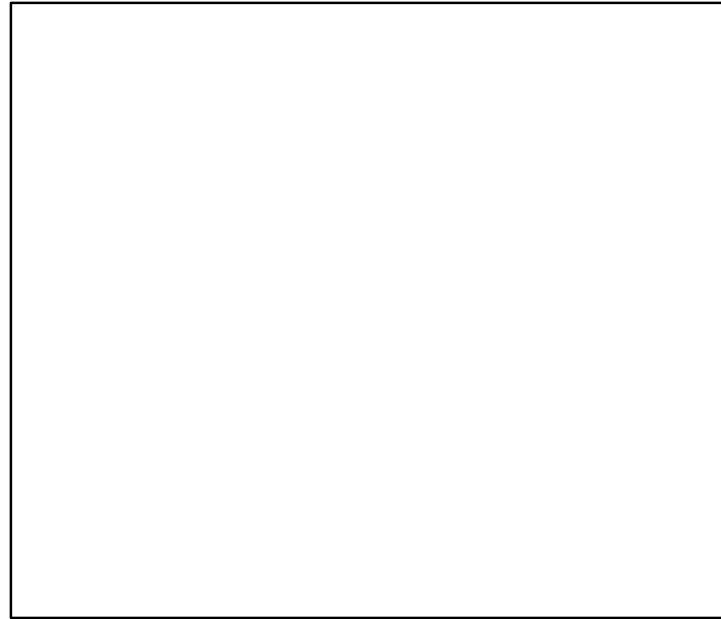
**Kobe MGT\***



**Spawner Recruit\***



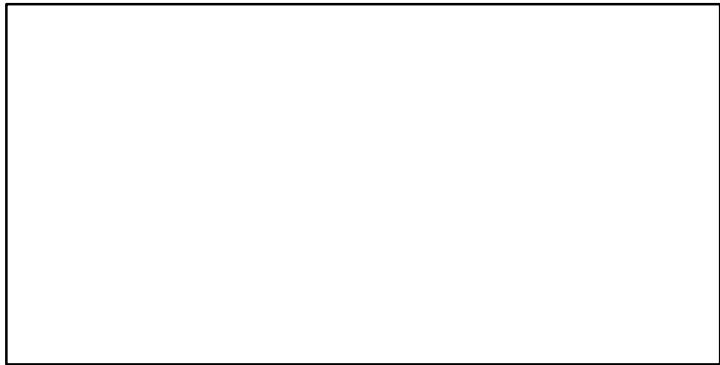
**Production\***



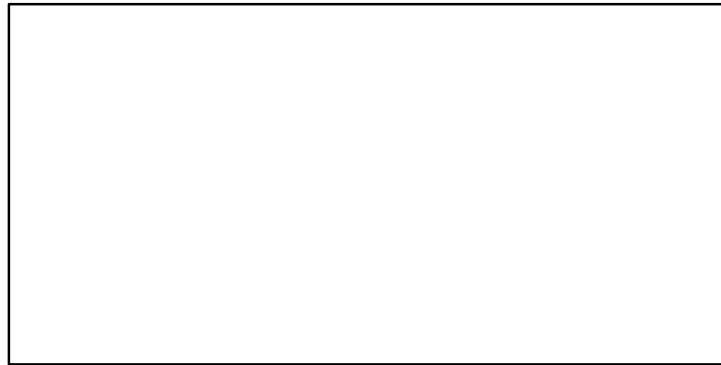
◆ Start Year ♦ End Year \* No Data

**Greater forkbeard Ligurian and North Tyrrhenian Sea [GFORKBMEDGSA9]**

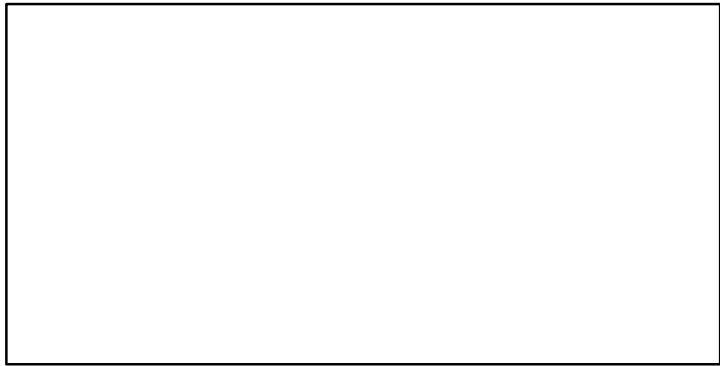
**TB\***



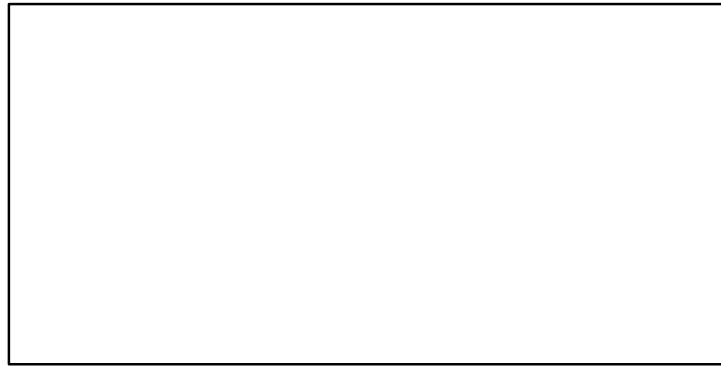
**SSB\***



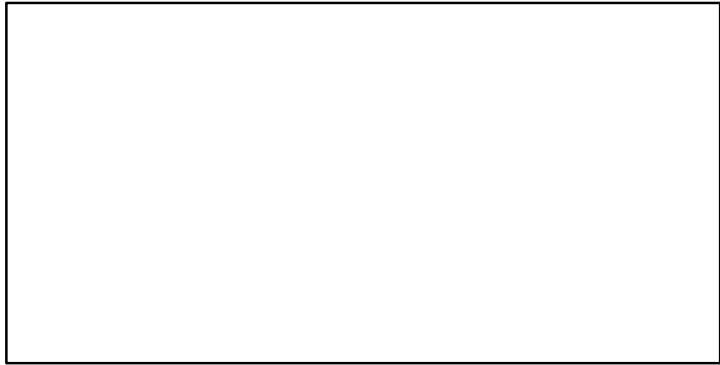
**TN \***



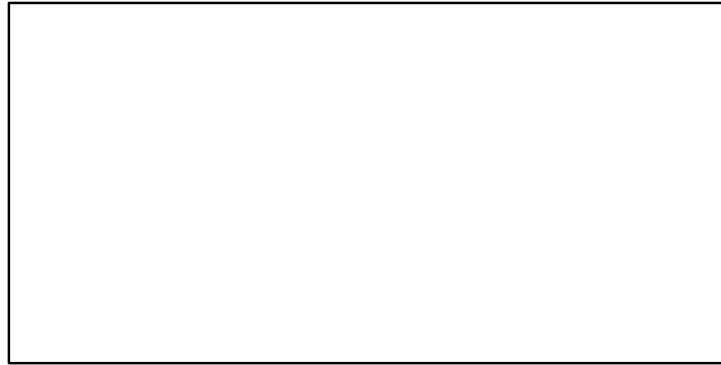
**F\***



**ER\***



**Recruits\***

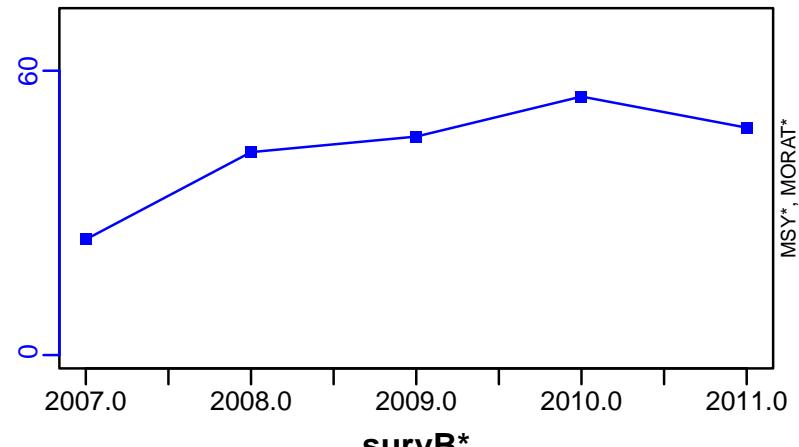


- |                      |                  |           |
|----------------------|------------------|-----------|
| ■ Listed time series | - - - Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP    | * No Data |

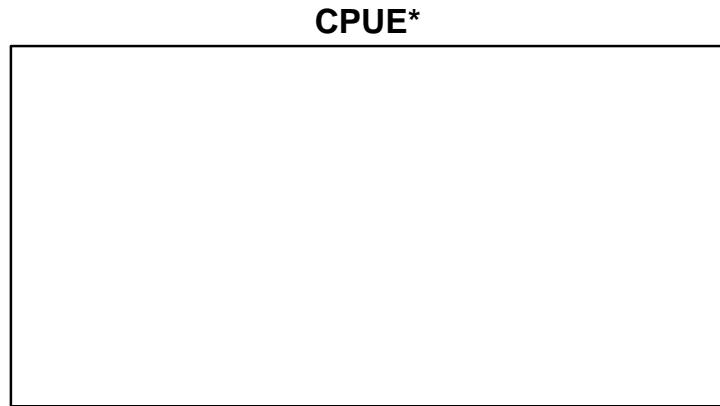
**Greater forkbeard Ligurian and North Tyrrhenian Sea [GFORKBMEDGSA9]**

**TC-MT, TL\*, RecC\* (2007–2011–OSIO)**

**TAC\*, Cpair\*, Cadv\***



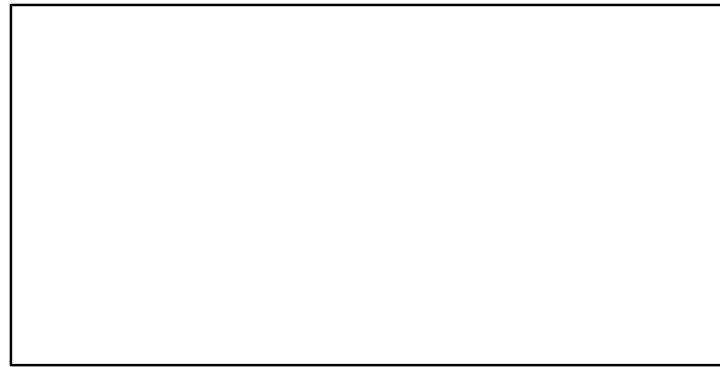
MSY\*, MORAT\*



**EFFORT\***



**CdivMSY\***



## Greater forkbeard Northeast Atlantic [GFORKNEATL]

<b>Metadata</b>	
<b>Scientific Name</b>	Phycis blennoides
<b>Current Assess ID</b>	WGDEEP-GFORKNEATL-2005-2019-ICESIMP2021-2
<b>Area</b>	Northeast Atlantic
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources
<b>Asmts in RAM</b>	2016, 2017, 2019

<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>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<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>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2019	2220		
<b>TL</b>	TL-MT	2019	1850		
<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\***

◆ Start Year ♦ End Year \* No Data

**Greater forkbeard Northeast Atlantic [GFORKNEATL]**

**TB\***



**SSB\***



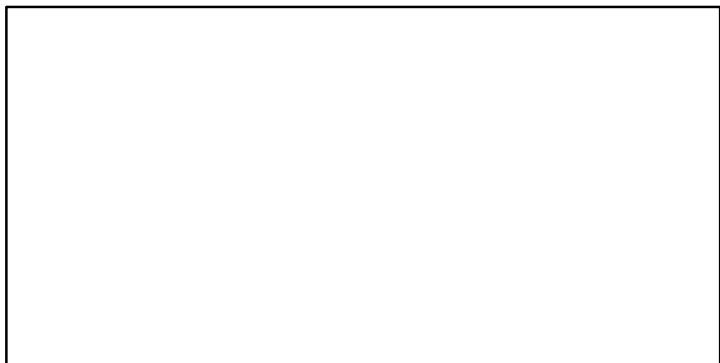
**TN \***



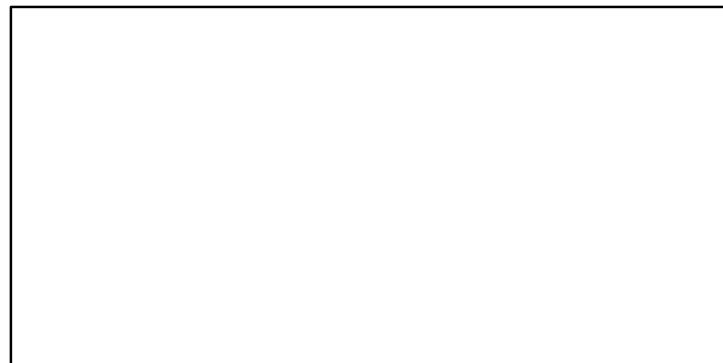
**F\***



**ER\***



**Recruits\***

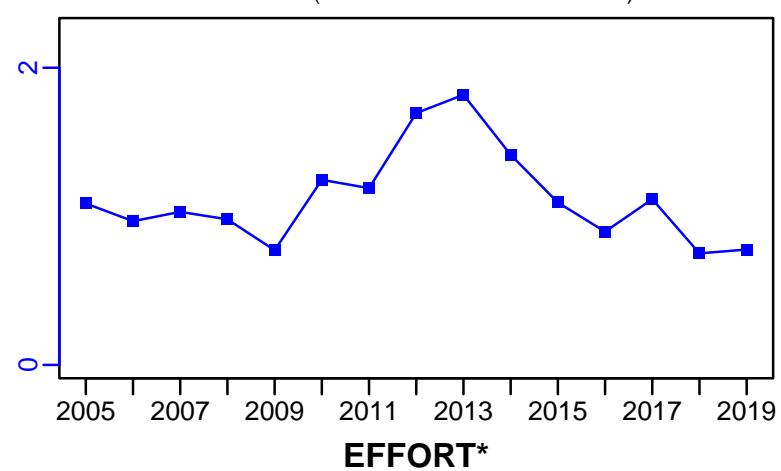
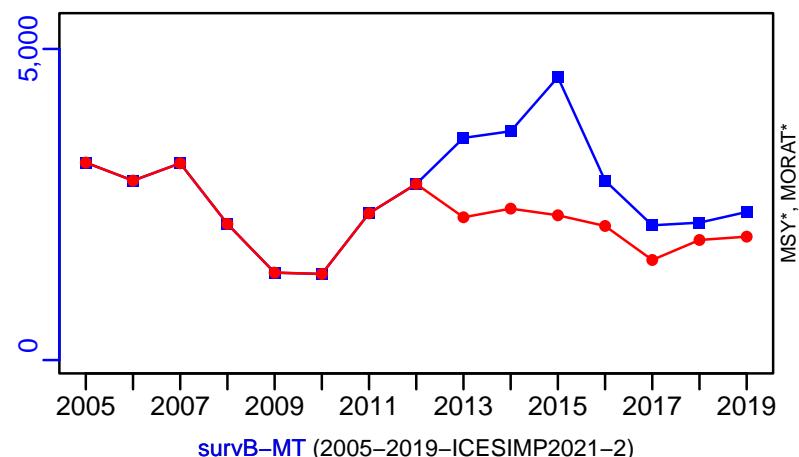


- |       |                    |       |            |   |         |
|-------|--------------------|-------|------------|---|---------|
| ■     | Listed time series | - - - | Target BRP | — | Rec-Est |
| - - - | MSY-based BRP      | - - - | Lim BRP    | * | No Data |

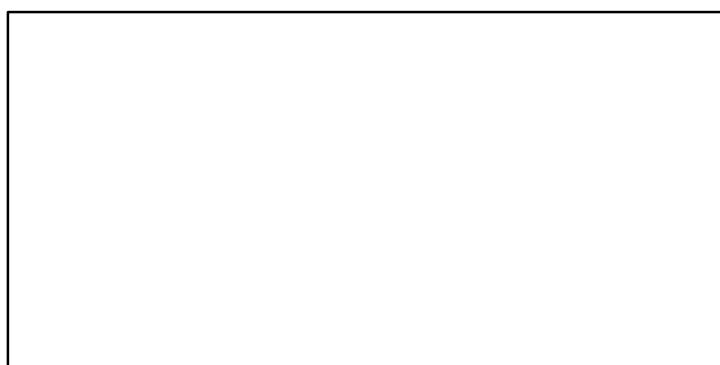
### Greater forkbeard Northeast Atlantic [GFORKNEATL]

TC-MT, TL-MT, RecC\* (2005–2019–ICESIMP2021–2)

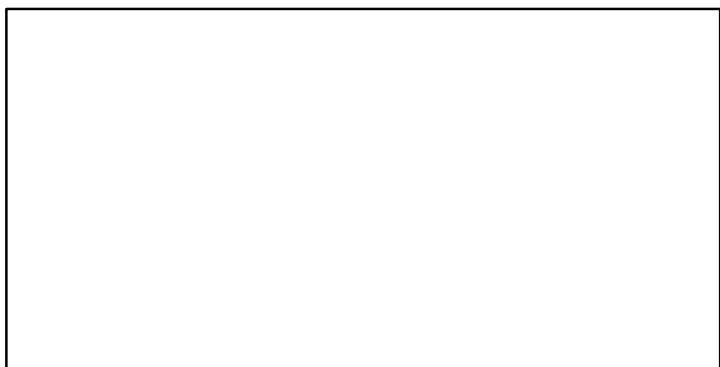
**TAC\*, Cpair\*, Cadv\***



**CPUE\***



**EFFORT\***



**CdivMSY\***



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

## Haddock Grand Banks [HAD3LNO]

Metadata	
<b>Scientific Name</b>	Melanogrammus aeglefinus
<b>Current Assess ID</b>	NAFO-SC-HAD3LNO-1953-2017-ASHBROOK
<b>Area</b>	Grand Banks
<b>Management Authority</b>	Northwest Atlantic Fisheries Organization
<b>Assessor</b>	NAFO Scientific Council
<b>Asmts in RAM</b>	2013, 2017

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERrmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<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	16,400	-	-	
<b>SSB</b>	-	-	-	-	-	
<b>TN</b>	TN-E00	2013	14,900,000	-	-	
<b>R</b>	-	-	-	-	-	
<b>F</b>	-	-	-	-	-	
<b>ER</b>	ER-calc-ratio	2013	0.001	-	-	
<b>TC</b>	TC-MT	2017	228			
<b>TL</b>	TL-MT	2013	21			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	-	-	-			
<b>ER/ERrmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

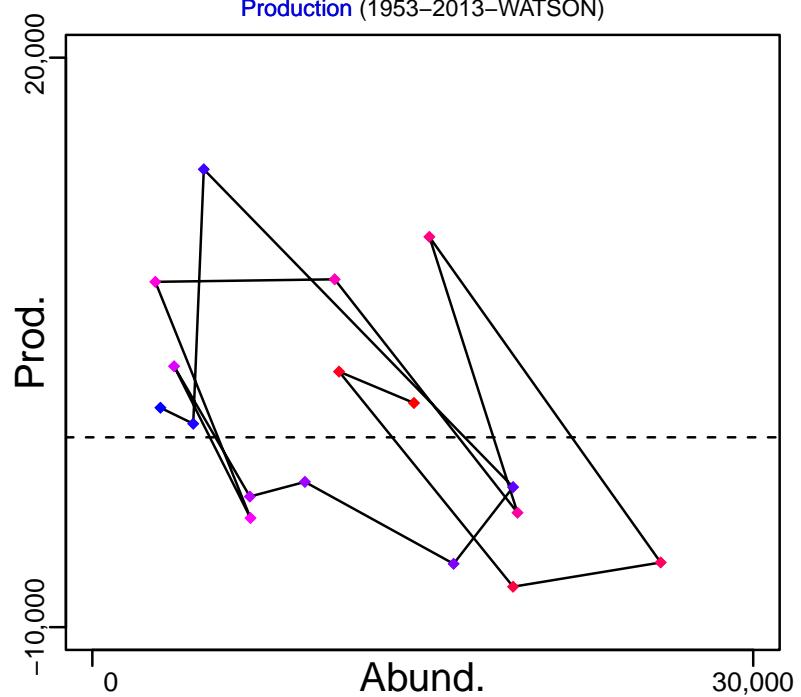
Haddock Grand Banks [HAD3LNO]

Kobe MSY\*

Kobe MGT\*

Spawner Recruit\*

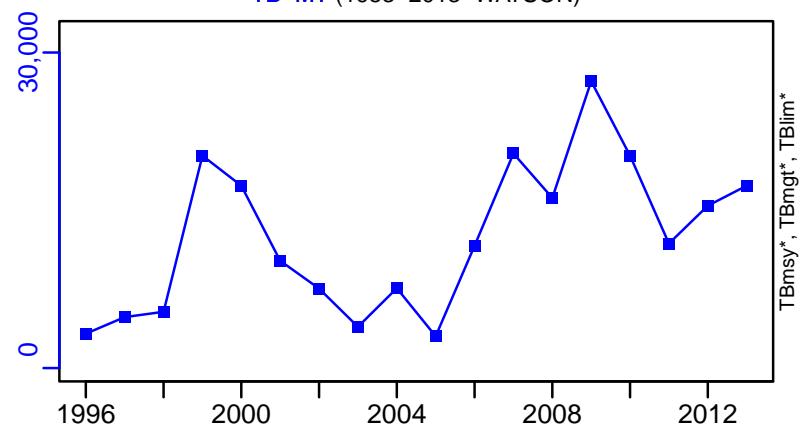
Production (1953–2013–WATSON)



◆ Start Year ◆ End Year \* No Data

Haddock Grand Banks [HAD3LNO]

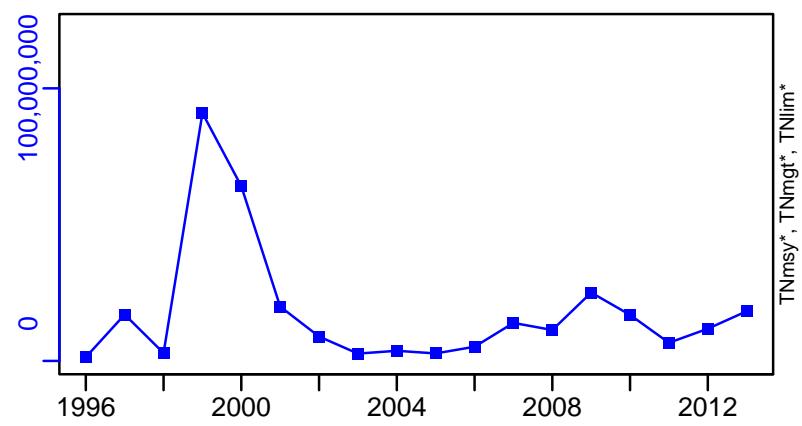
TB-MT (1953–2013–WATSON)



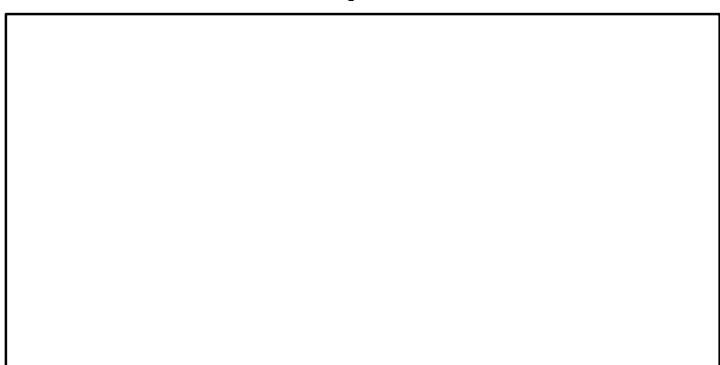
SSB\*



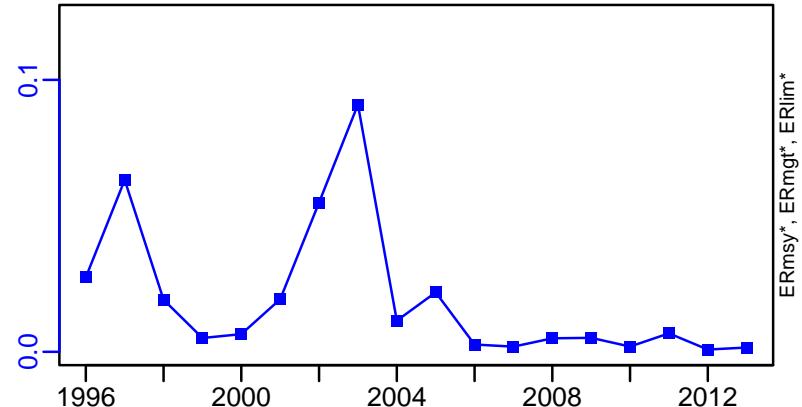
TN-E00 (1953–2013–WATSON)



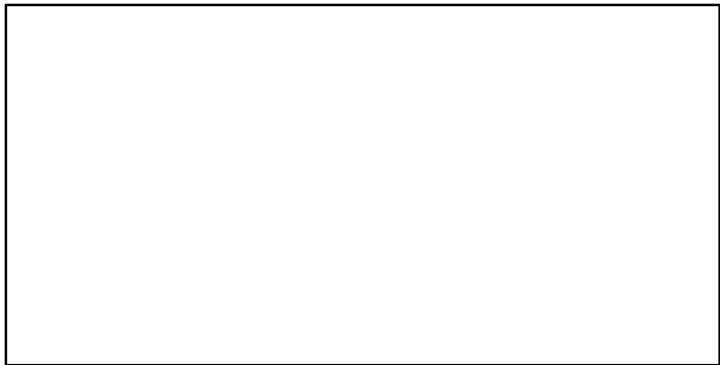
F\*



ER-calc-ratio (1953–2013–WATSON)



Recruits\*

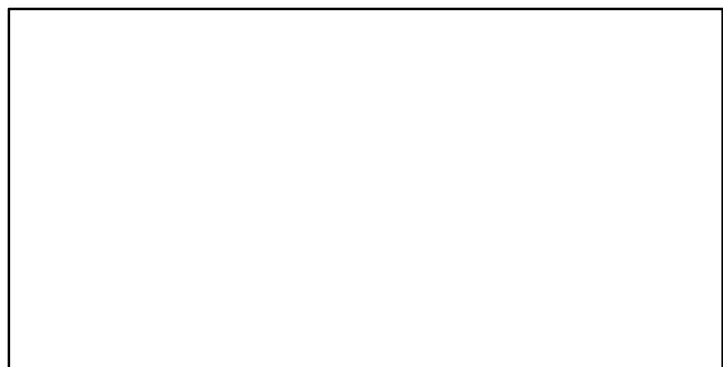
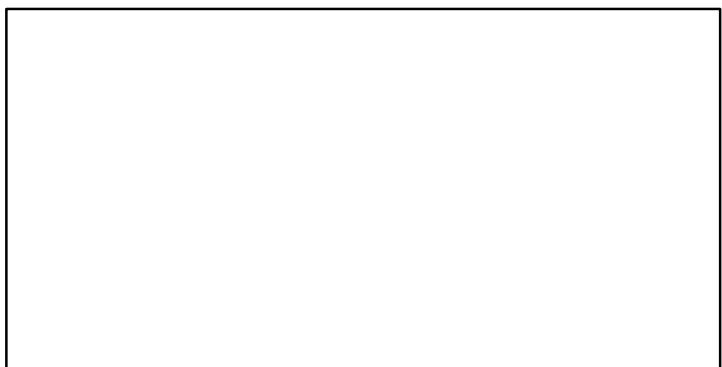
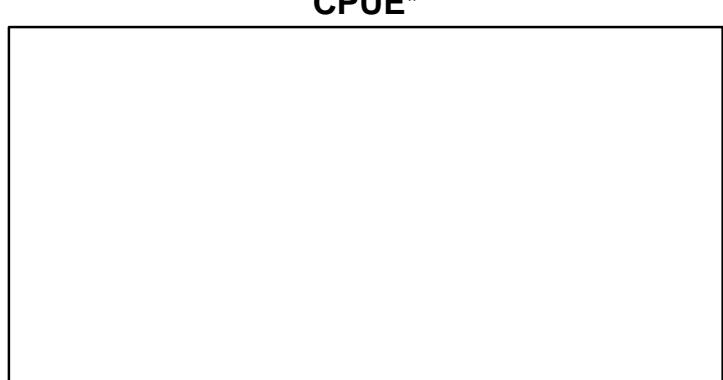
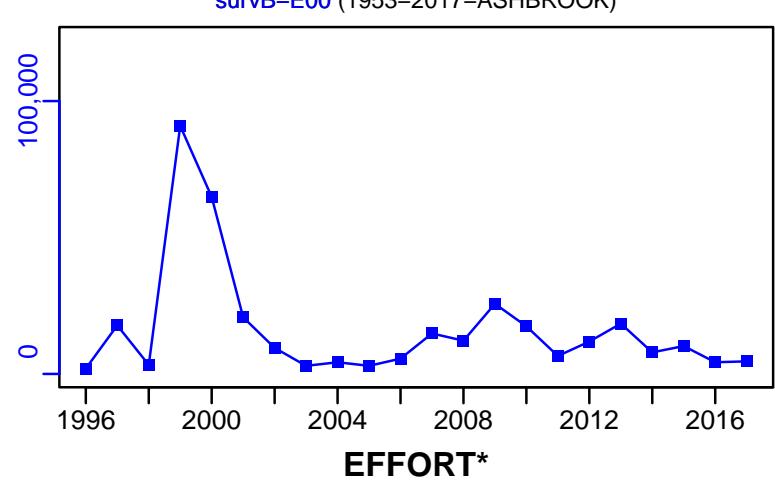
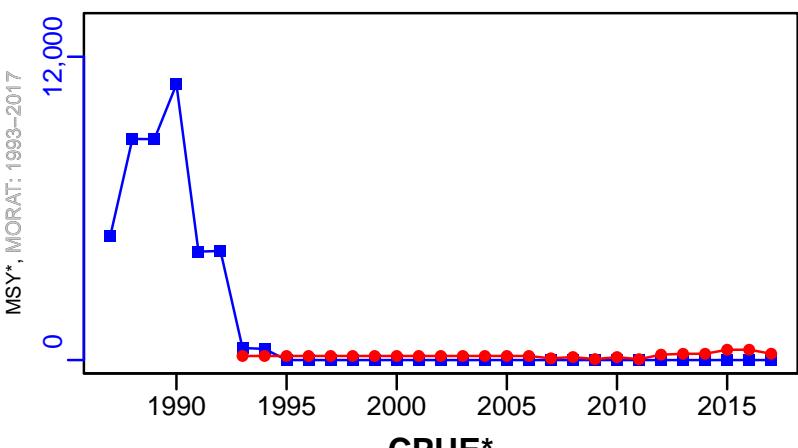
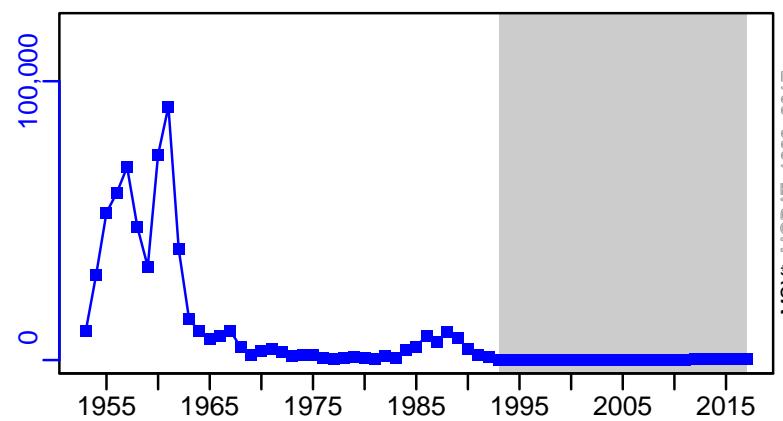


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| — MSY-based BRP      | ··· Lim BRP  | * No Data |

### Haddock Grand Banks [HAD3LNO]

TC-MT, TL\*, RecC\* (1953–2017-ASHBROOK)

TAC-MT, Cpair-MT, Cadv\* (1953–2017-ASHBROOK)



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

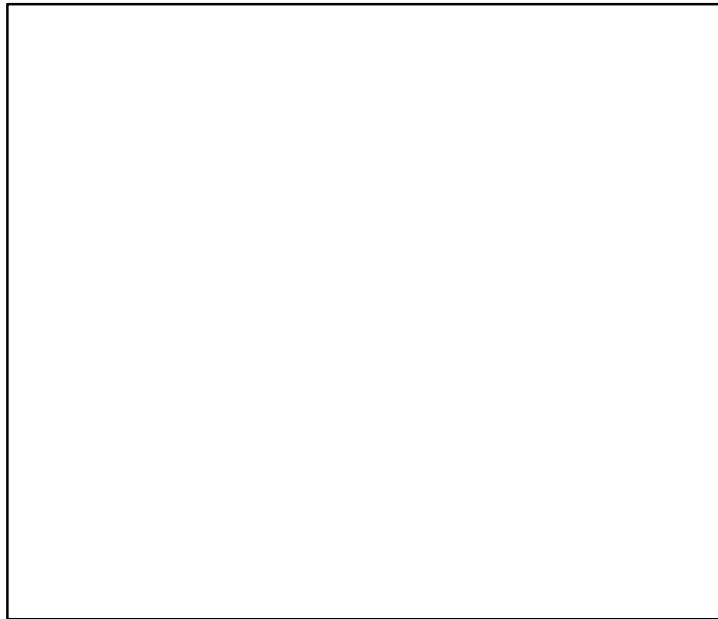
## Haddock St. Pierre Bank [HAD3Ps]

<b>Metadata</b>	
<b>Scientific Name</b>	Melanogrammus aeglefinus
<b>Current Assess ID</b>	DFO-NFLD-HAD3Ps-1953-2018-ASHBROOK
<b>Area</b>	St. Pierre Bank
<b>Management Authority</b>	Department of Fisheries and Oceans, Canada national management
<b>Assessor</b>	Department of Fisheries and Oceans - Newfoundland Region
<b>Asmts in RAM</b>	2018

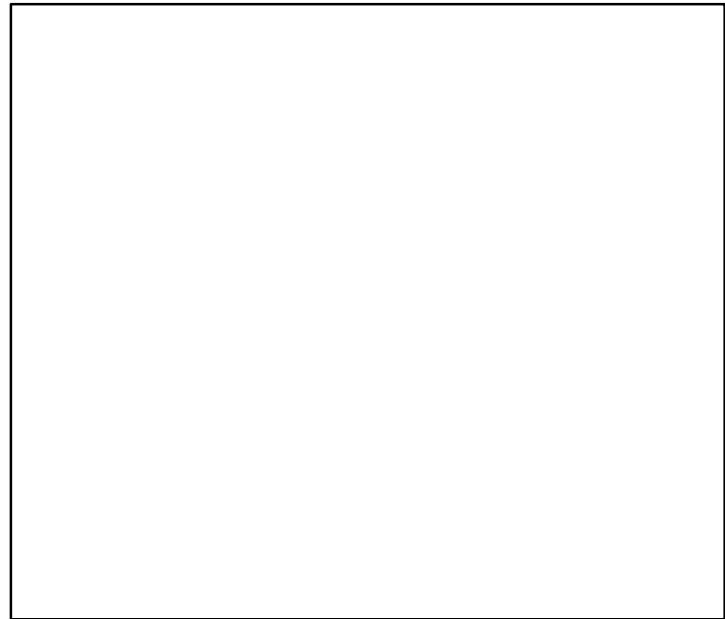
<b>Reference Points</b>			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>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

<b>Time Series</b>					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2018	0.254		
<b>TL</b>	-	-	-		
<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>	-	-	-		

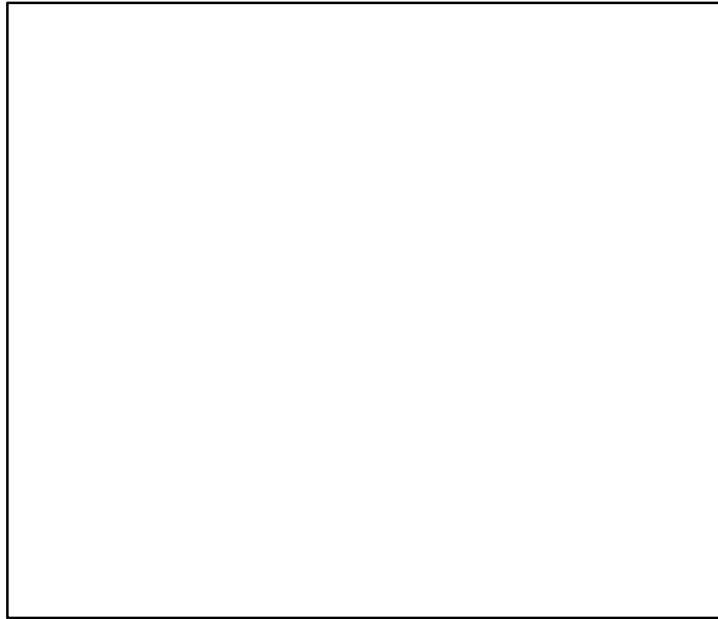
**Kobe MSY\***



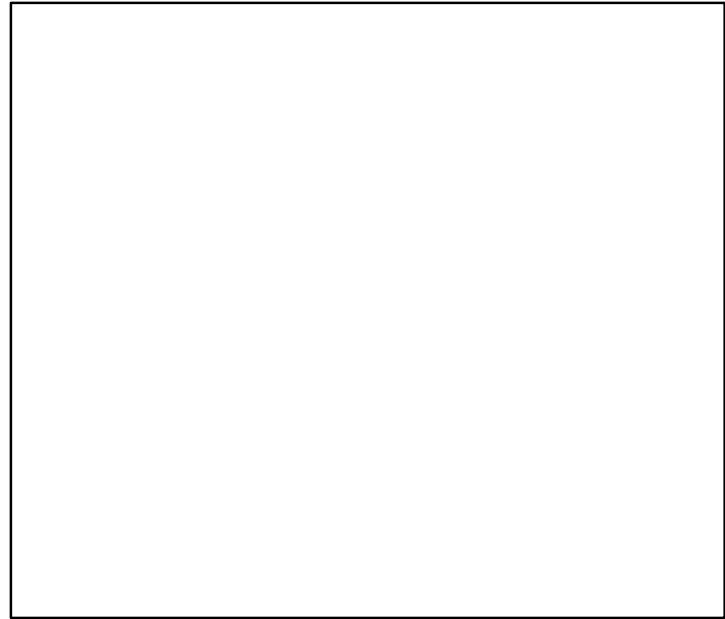
**Kobe MGT\***



**Spawner Recruit\***



**Production\***



◆ Start Year ♦ End Year \* No Data

Haddock St. Pierre Bank [HAD3Ps]

**TB\***



**SSB\***



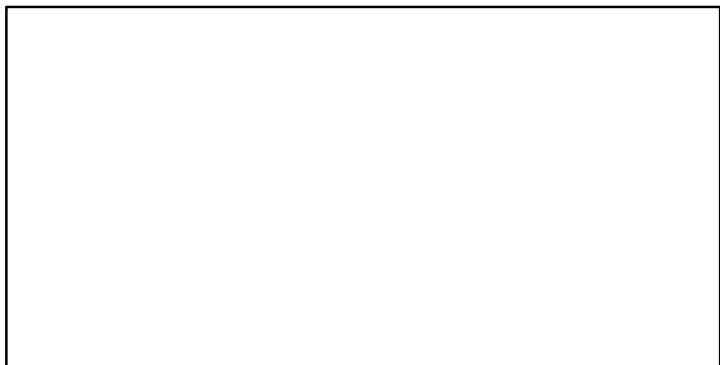
**TN \***



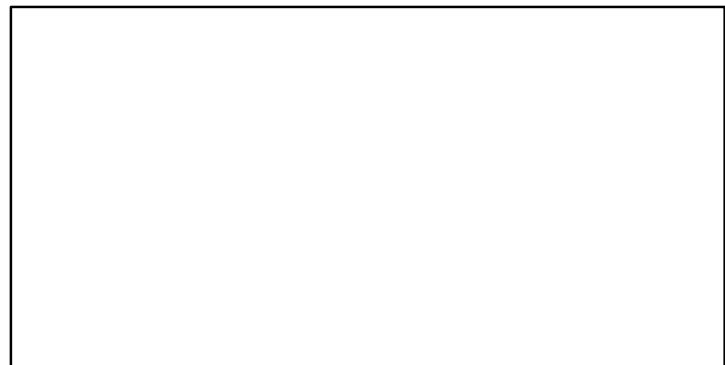
**F\***



**ER\***



**Recruits\***

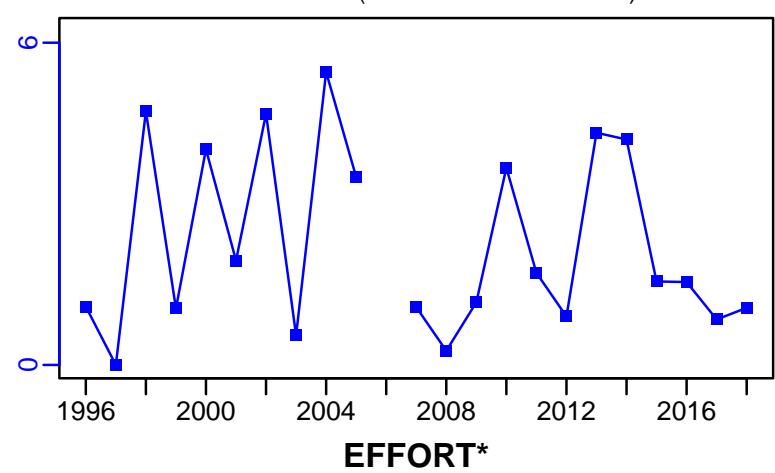
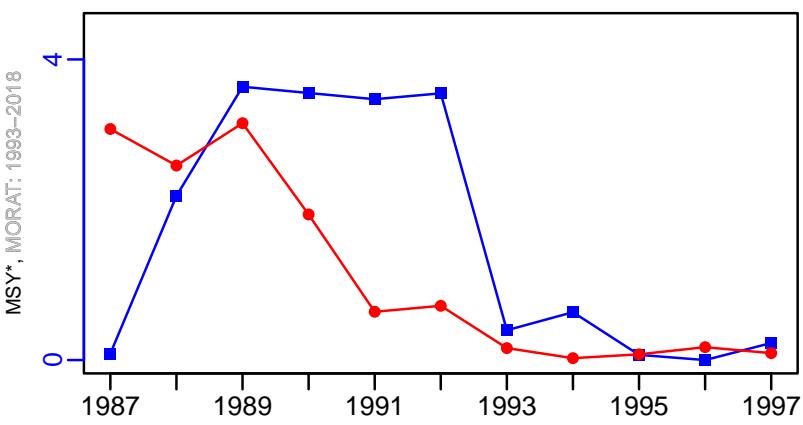
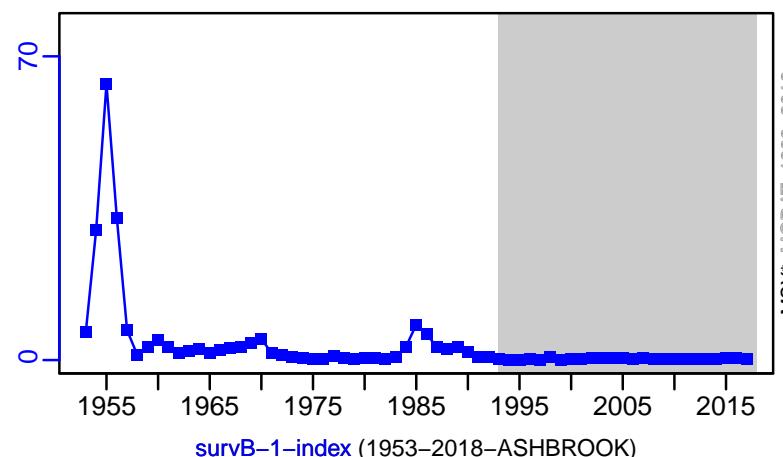


- |                      |                  |           |
|----------------------|------------------|-----------|
| ■ Listed time series | - - - Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP    | * No Data |

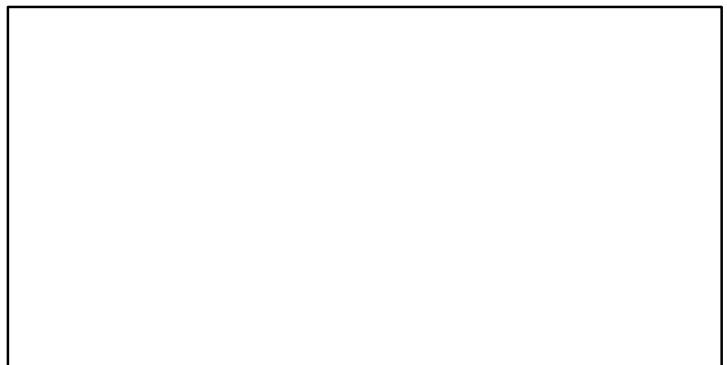
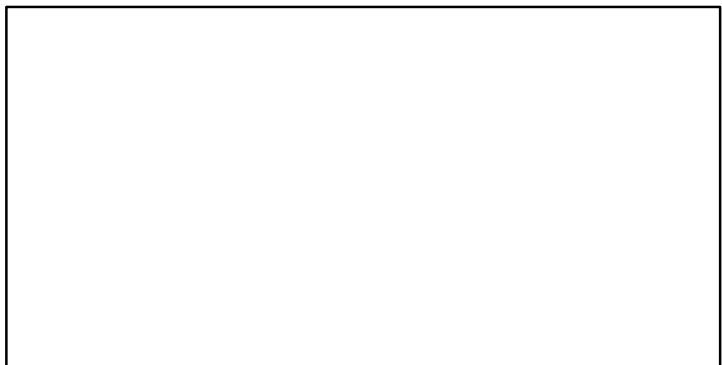
### Haddock St. Pierre Bank [HAD3Ps]

TC-MT, TL\*, RecC\* (1953–2018–ASHBROOK)

TAC-MT, Cpair-MT, Cadv\* (1953–2018–ASHBROOK)



CdivMSY\*



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

## Haddock Western Scotian Shelf, Bay of Fundy and Gulf of Maine [HAD4X5Y]

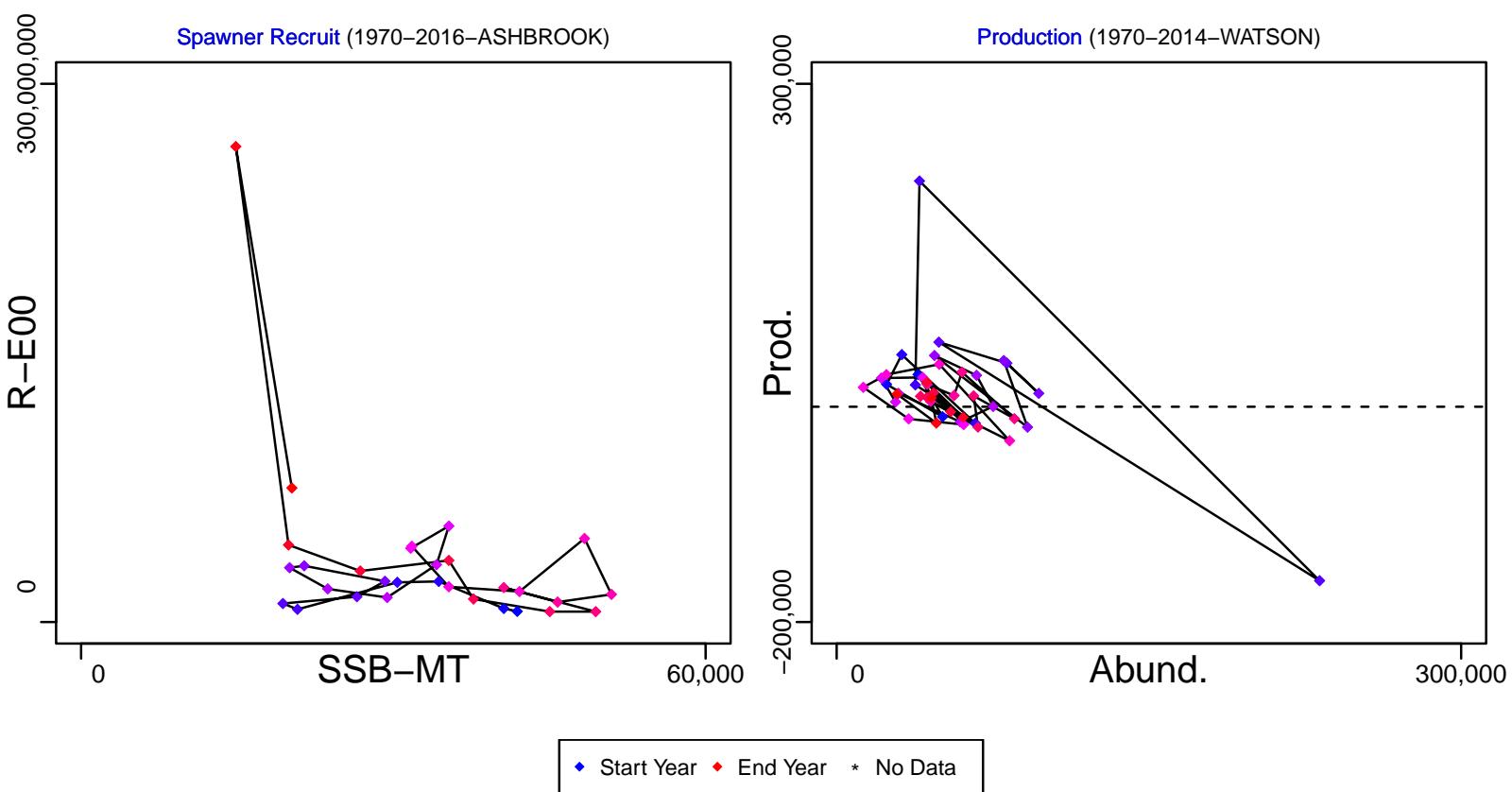
Metadata	
<b>Scientific Name</b>	Melanogrammus aeglefinus
<b>Current Assess ID</b>	DFO-MAR-HAD4X5Y-1970-2016-ASHBROOK
<b>Area</b>	Western Scotian Shelf, Bay of Fundy and Gulf of Maine
<b>Management Authority</b>	Department of Fisheries and Oceans, Canada national management
<b>Assessor</b>	Department of Fisheries and Oceans - Maritimes Region
<b>Asmts in RAM</b>	2014, 2011, 2016

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	SSBmsy-MT	2011	52,000
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	Fmgt-1/yr	2016	0.25
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-MT	2011	14,700
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2016	19,700
<b>Flim</b>	Flim-1/yr	2016	0.149
<b>ERlim</b>	-	-	-

Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2014	42,900	Both	-
<b>SSB</b>	SSB-MT	2016	34,147	-	4+
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2016	74,730,530	-	1
<b>F</b>	F-1/yr	2016	0.048	-	10-Jun
<b>ER</b>	ER-calc-ratio	2014	0.096	-	-
<b>TC</b>	TC-MT	2014	3520		
<b>TL</b>	TL-MT	2016	2926		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2011	0.821		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2016	0.191		
<b>ER/ERmgt</b>	-	-	-		

**Kobe MSY\***

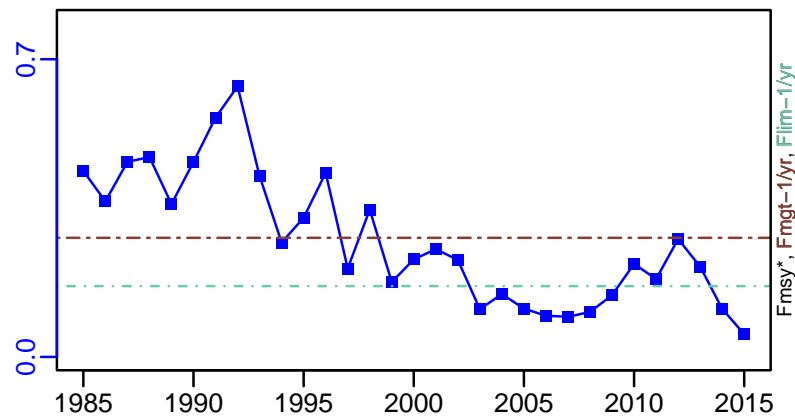
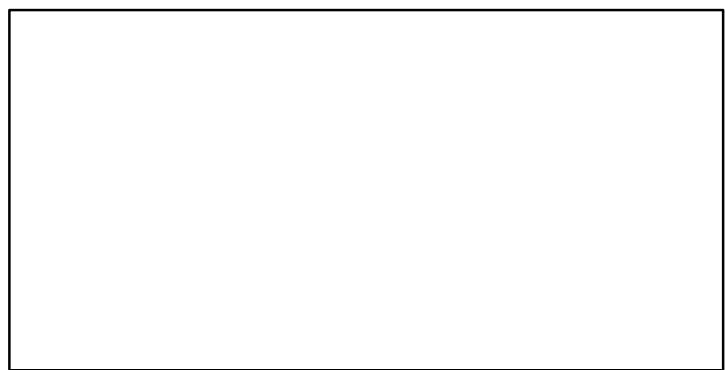
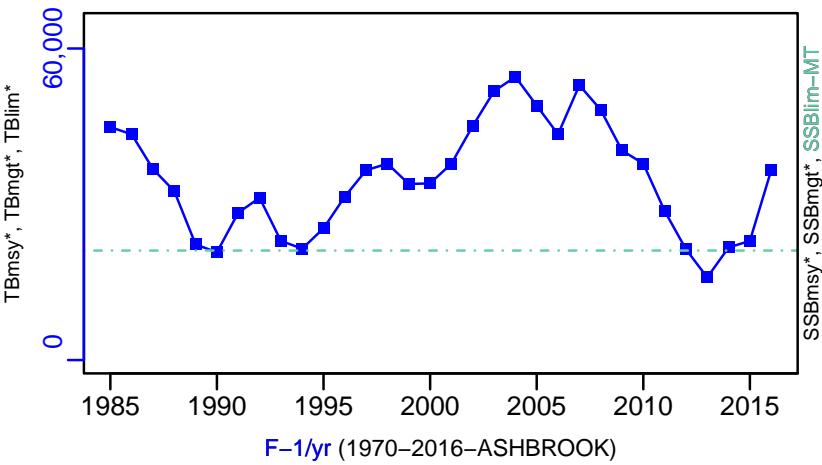
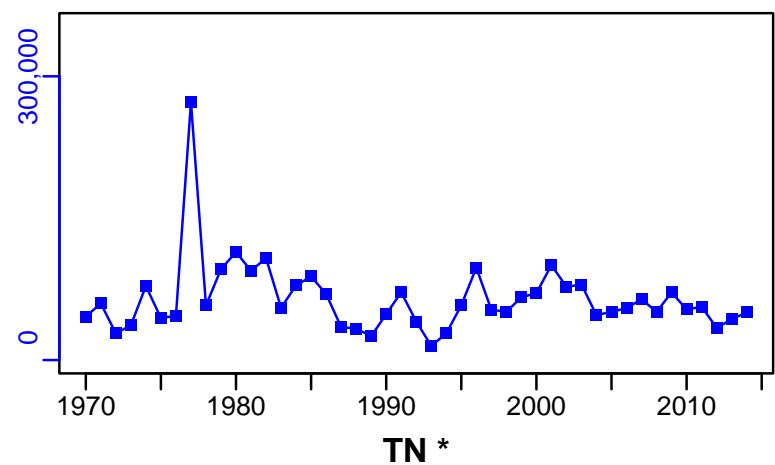
**Kobe MGT\***



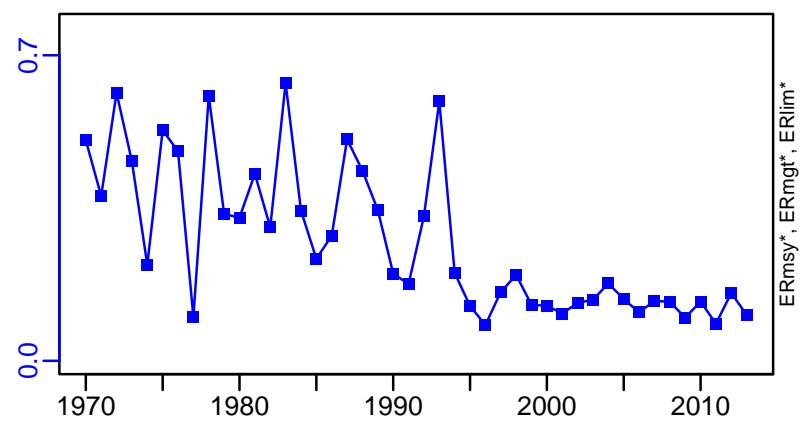
Haddock Western Scotian Shelf, Bay of Fundy and Gulf of Maine [HAD4X5Y]

TB-MT (1970–2014–WATSON)

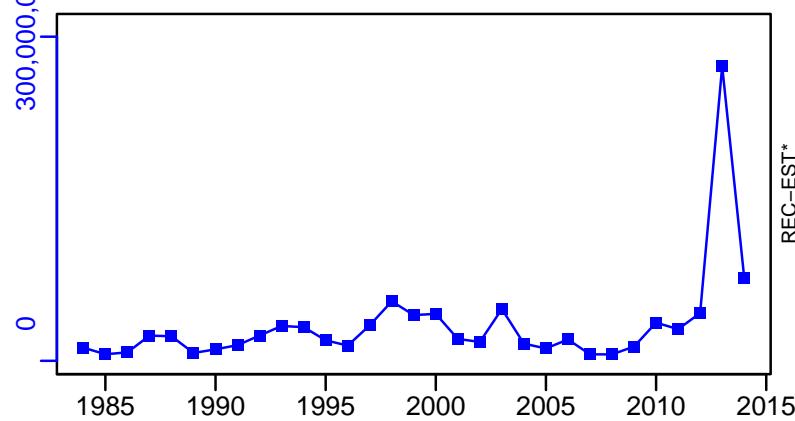
SSB-MT (1970–2016–ASHBROOK)



ER-calc-ratio (1970–2014–WATSON)



R-E00 (1970–2016–ASHBROOK)

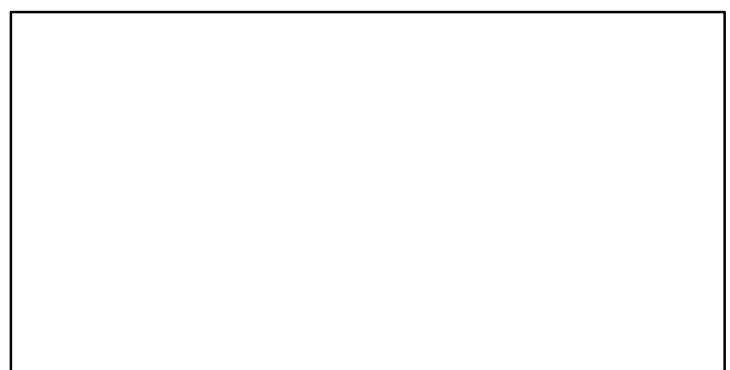
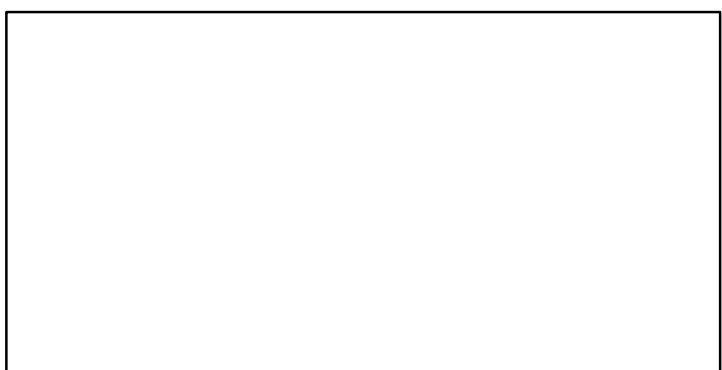
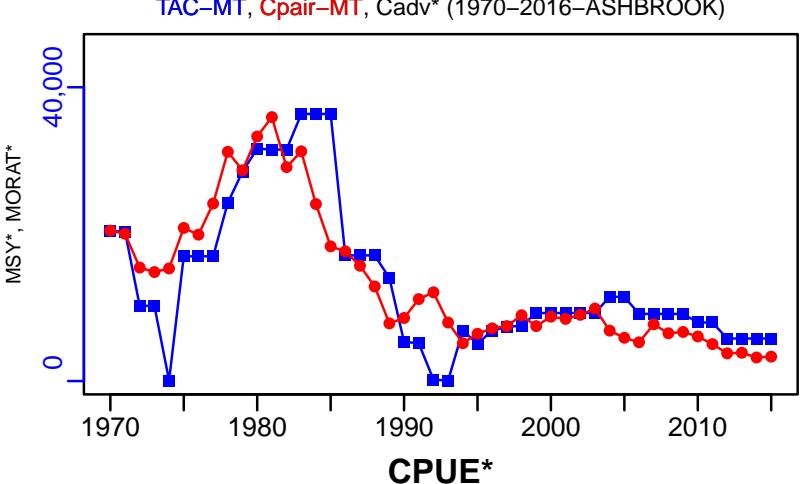
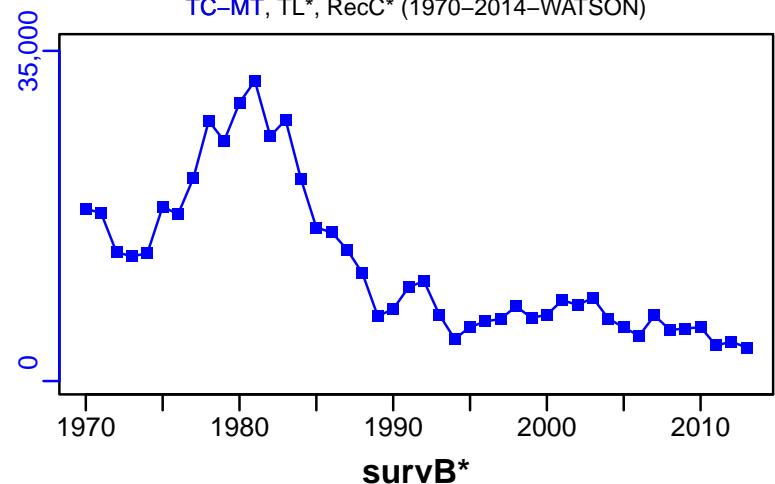


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	- - Lim BRP	* No Data

Haddock Western Scotian Shelf, Bay of Fundy and Gulf of Maine [HAD4X5Y]

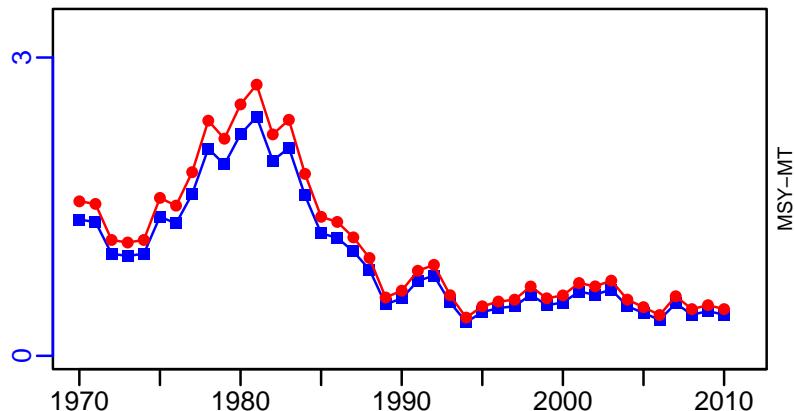
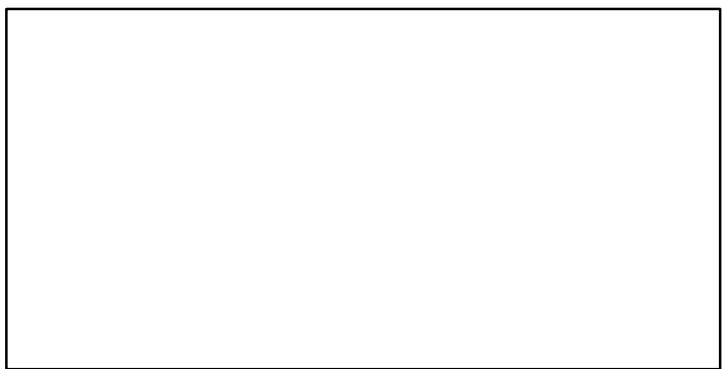
TC-MT, TL\*, RecC\* (1970–2014–WATSON)

TAC-MT, Cpair-MT, Cadv\* (1970–2016–ASHBROOK)



EFFORT\*

TL-MT/MSY-MT, CdivMEANC-ratio, (1970–2011–CHING)



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

## Haddock Gulf of Maine [HAD5Y]

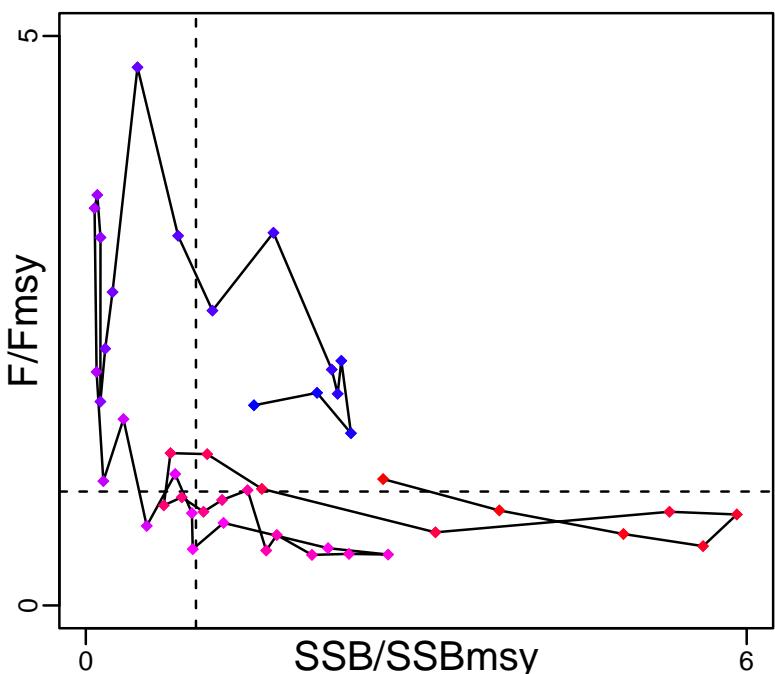
Metadata	
<b>Scientific Name</b>	Melanogrammus aeglefinus
<b>Current Assess ID</b>	NEFSC-HAD5Y-1976-2021-SISIMP2024
<b>Area</b>	Gulf of Maine
<b>Management Authority</b>	National Marine Fisheries Service, US national management
<b>Assessor</b>	Northeast Fisheries Science Center
<b>Asmts in RAM</b>	2011, 2016, 2021, 2014, 2018

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	SSBmsy-MT	2021	6123
<b>Fmsy</b>	Fmsy-1/yr	2021	0.338
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-MT	2021	1098
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2021	3062
<b>Flim</b>	Flim-1/yr	2018	0.369
<b>ERlim</b>	-	-	-

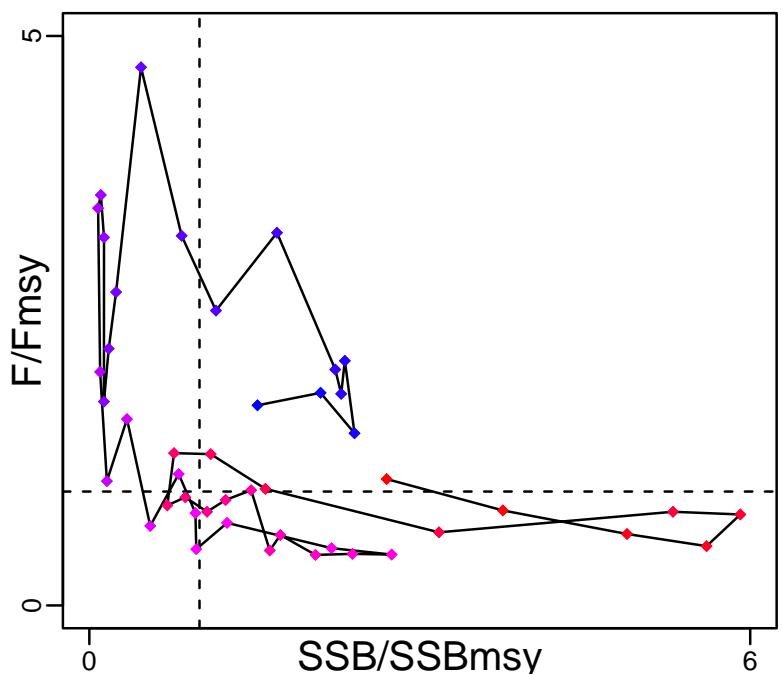
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2011	2580	-	-
<b>SSB</b>	SSB-MT	2021	16,528	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2021	22,781	-	1
<b>F</b>	F-1/yr	2021	0.375	-	-
<b>ER</b>	ER-ratio	2011	0.359	-	-
<b>TC</b>	TC-MT	2021	4602		
<b>TL</b>	TL-MT	2011	1300		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2021	2.699		
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2021	1.109		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

Haddock Gulf of Maine [HAD5Y]

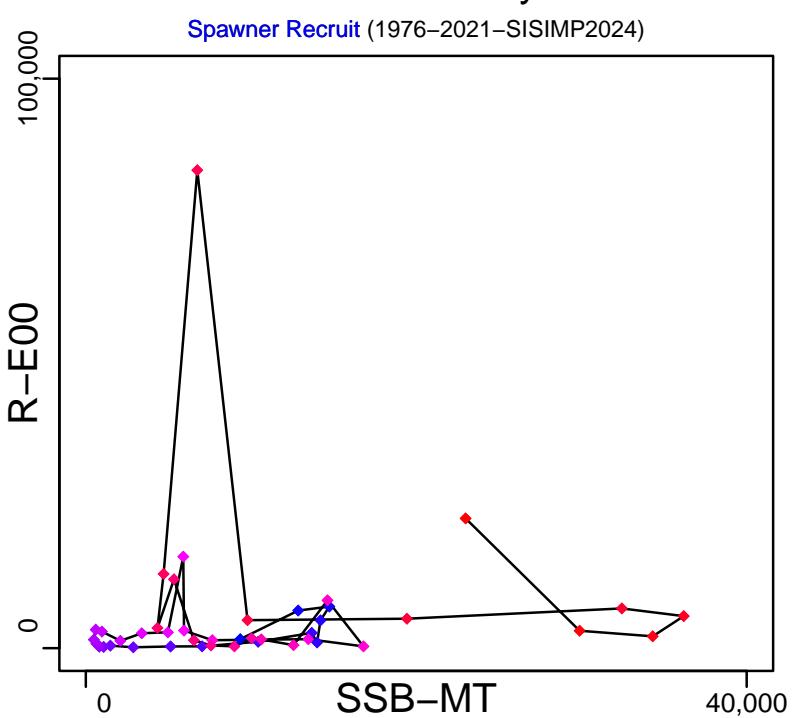
Kobe MSYpref (1976–2021–SISIMP2024)



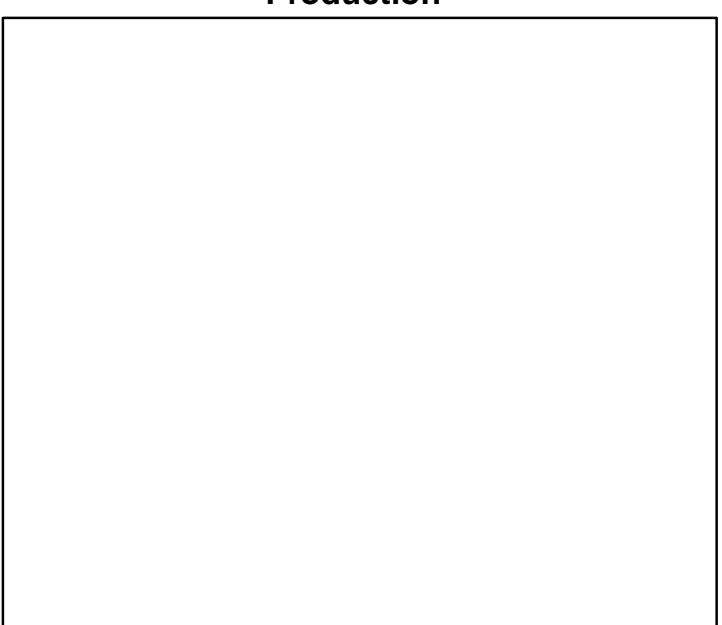
Kobe MGTpref (1976–2021–SISIMP2024)



Spawner Recruit (1976–2021–SISIMP2024)



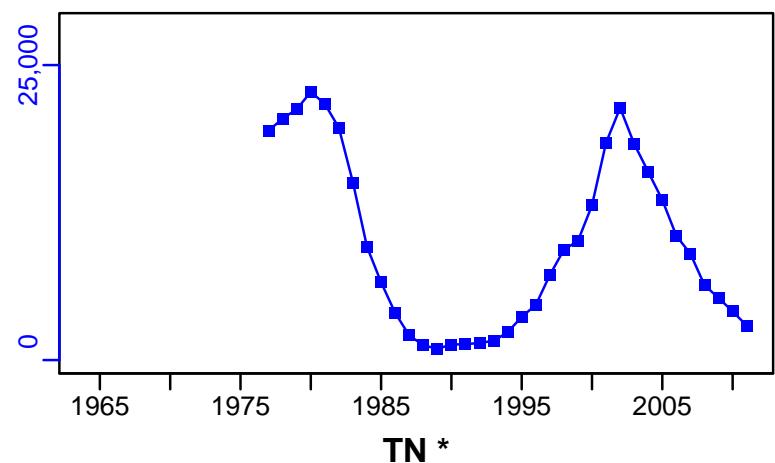
Production\*



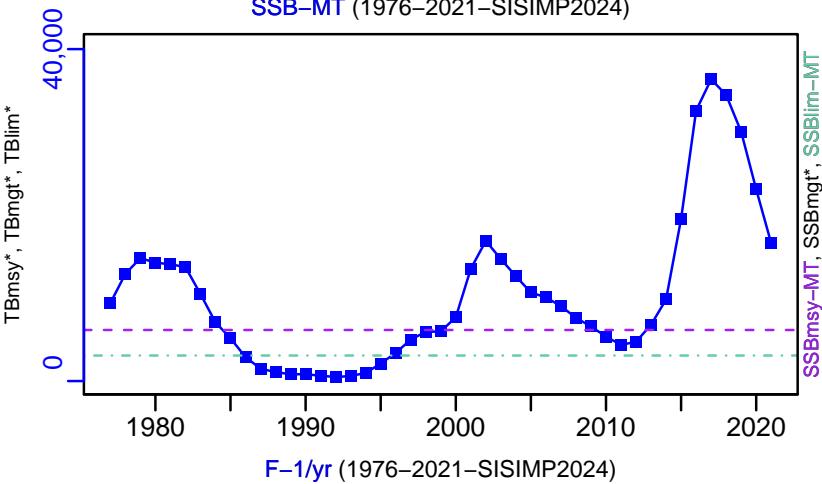
◆ Start Year	◆ End Year	* No Data
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### Haddock Gulf of Maine [HAD5Y]

TB-MT (1964–2011-CHING)



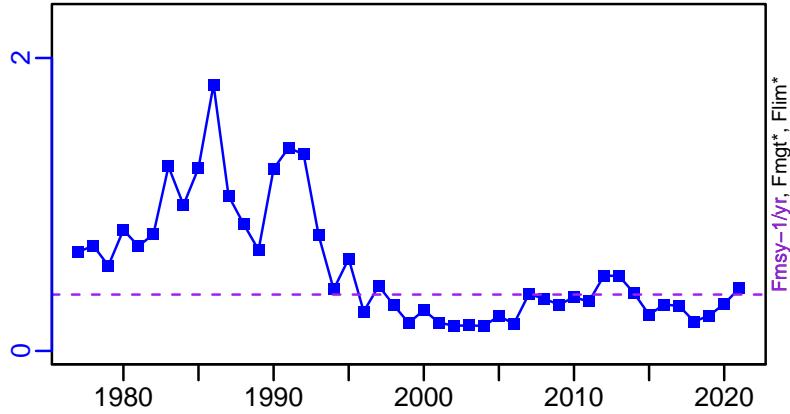
SSB-MT (1976–2021-SISIMP2024)



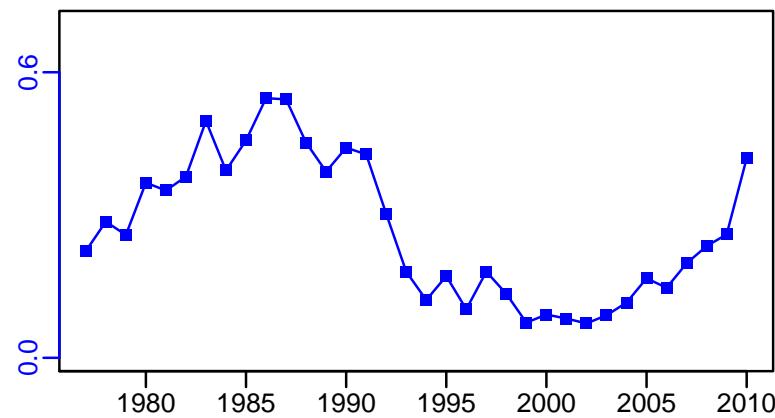
TN \*



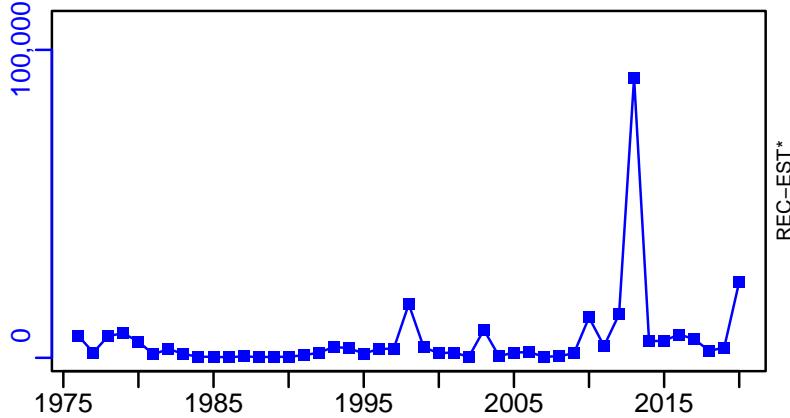
F-1/yr (1976–2021-SISIMP2024)



ER-ratio (1964–2011-CHING)



R-E00 (1976–2021-SISIMP2024)



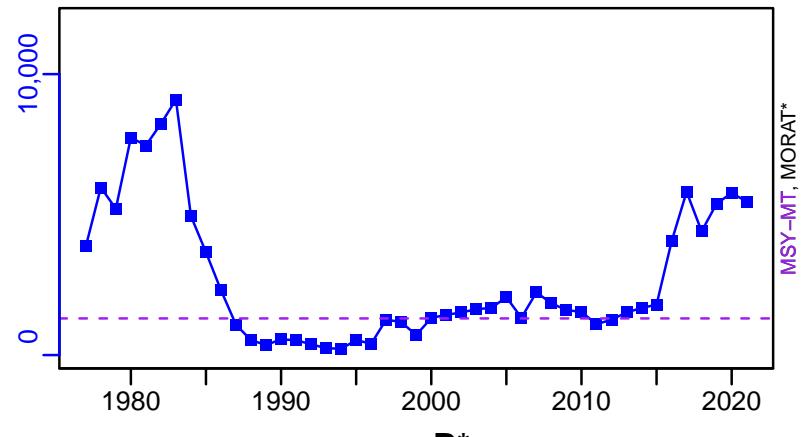
REC-EST\*

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

Haddock Gulf of Maine [HAD5Y]

TC-MT, TL\*, RecC\* (1976–2021–SISIMP2024)

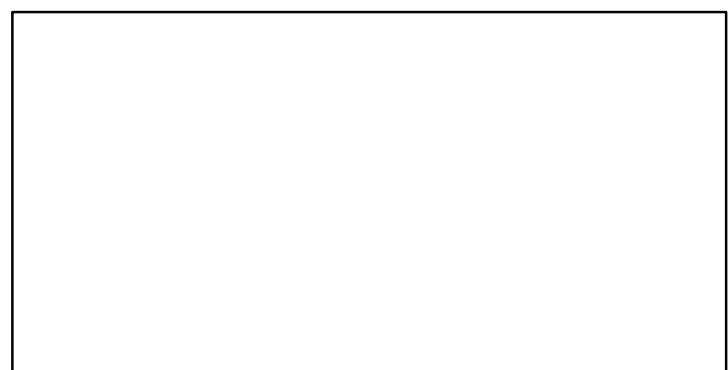
TAC\*, Cpair\*, Cadv\*



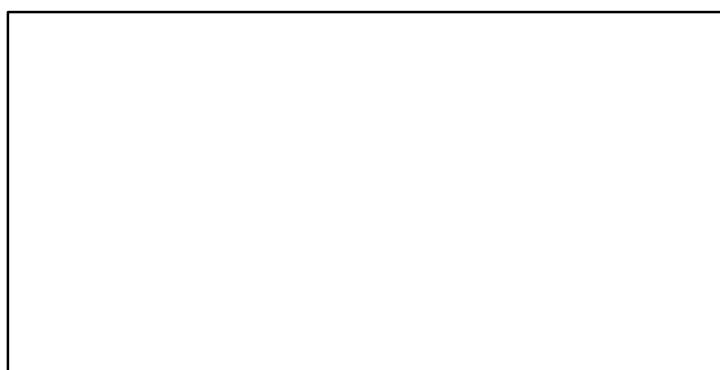
survB\*

MSY-MT, MORAT\*

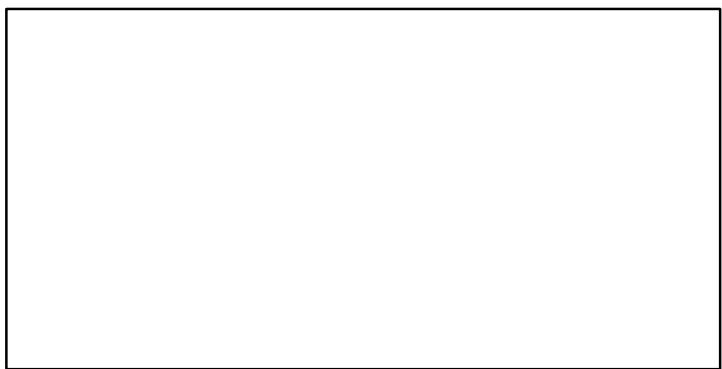
TAC\*, Cpair\*, Cadv\*



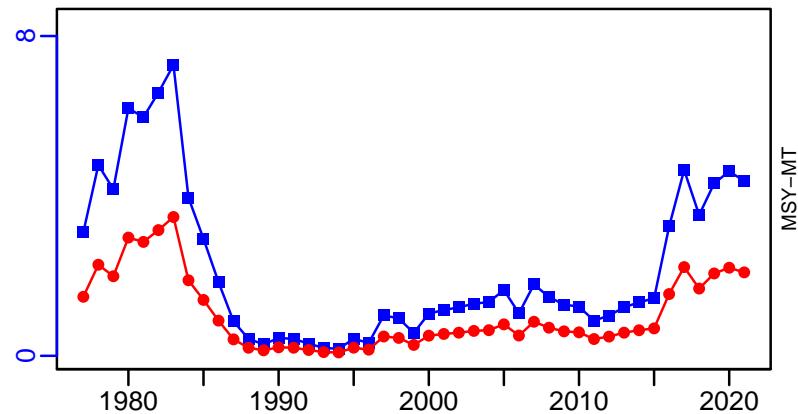
CPUE\*



EFFORT\*



TC-MT/MSY-MT, CdivMEANC-ratio, (1976–2021–SISIMP2024)



MSY-MT

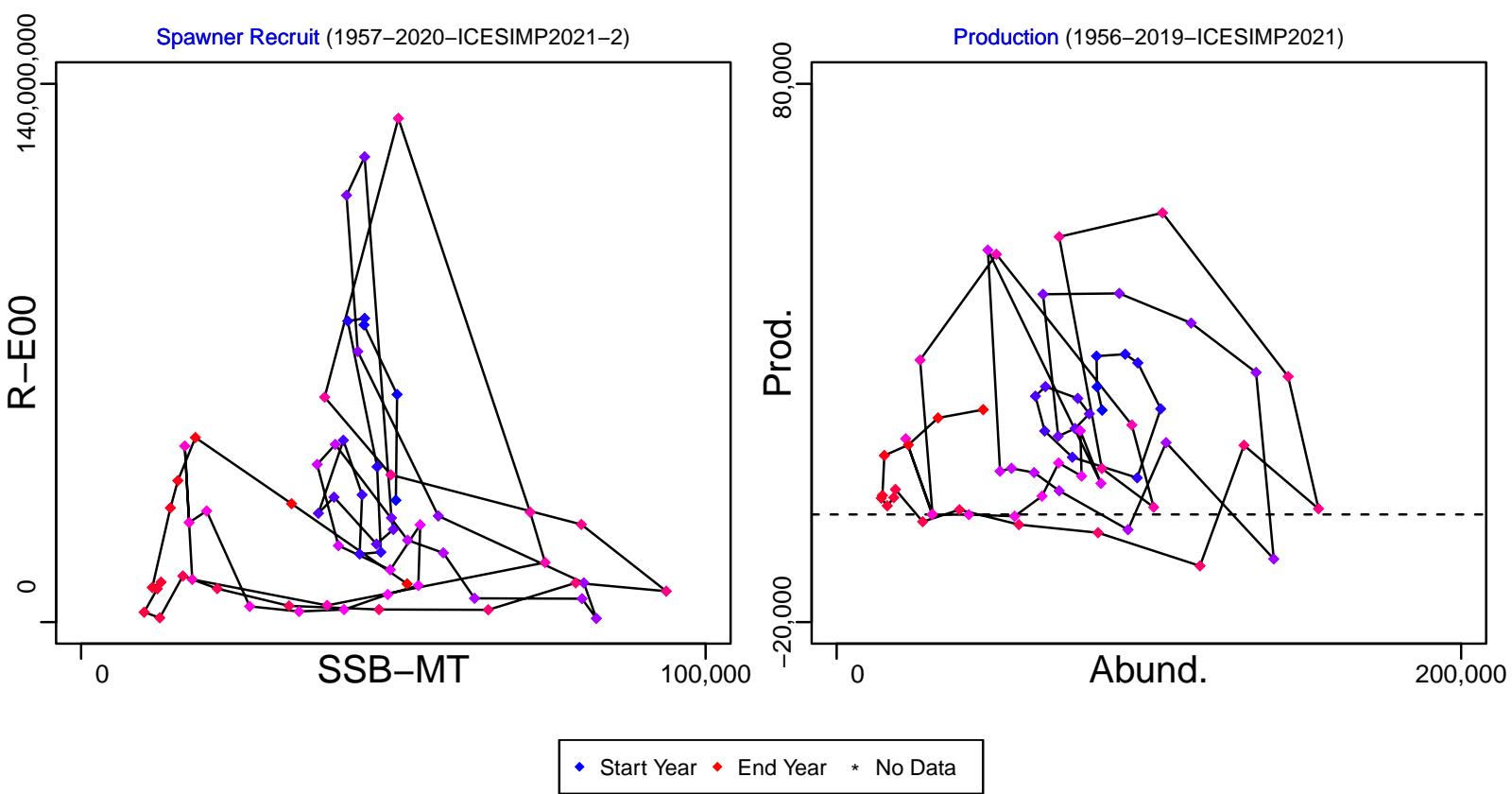
- |                          |                          |           |
|--------------------------|--------------------------|-----------|
| ■ 1st listed time series | ▲ 3rd listed time series | — MORAT   |
| ● 2nd listed time series | - - - MSY                | * No Data |

## Haddock Faroe Plateau [HADFAPL]

Metadata	
<b>Scientific Name</b>	Melanogrammus aeglefinus
<b>Current Assess ID</b>	NWWG-HADFAPL-1957-2020-ICESIMP2021-2
<b>Area</b>	Faroe Plateau
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	North-Western Working Group
<b>Asmts in RAM</b>	2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2020	0.165
<b>ERmsy</b>	ERmsy-ratio	2019	0.165
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	Fmgt-1/yr	2020	0.165
<b>ERmgt</b>	ERmgt-ratio	2019	0.165
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-MT	2012	35,000
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2020	16,800
<b>Flim</b>	Flim-1/yr	2020	0.54
<b>ERlim</b>	-	-	-

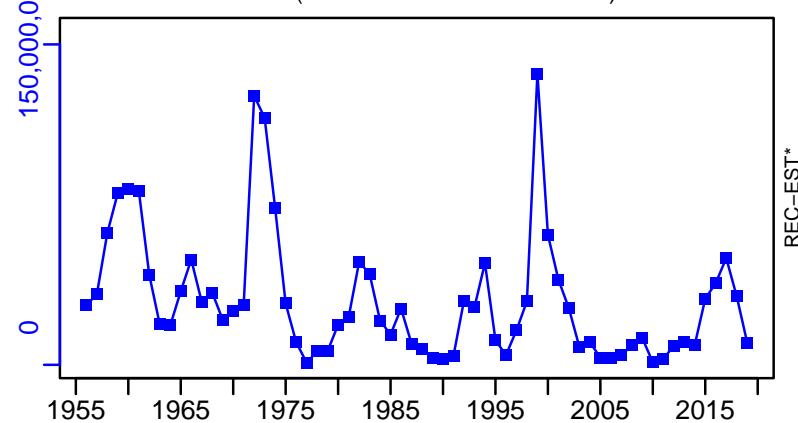
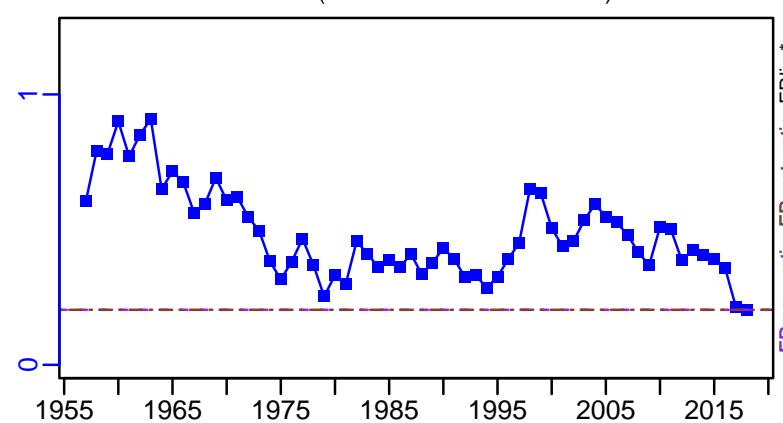
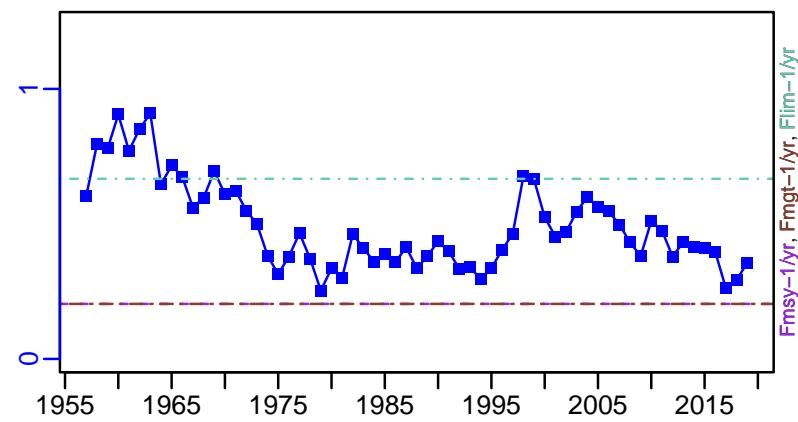
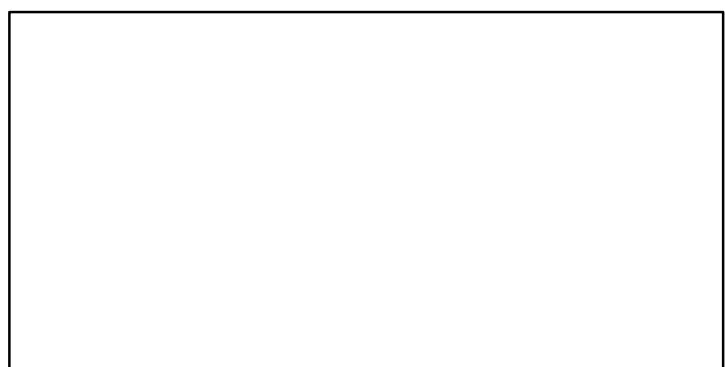
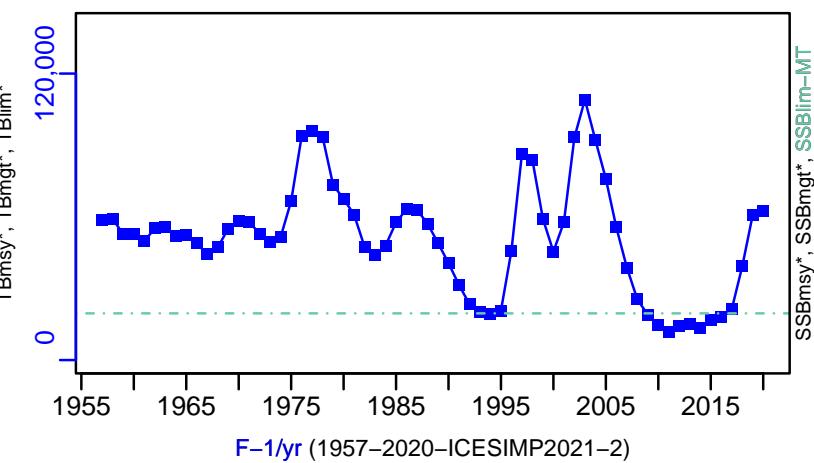
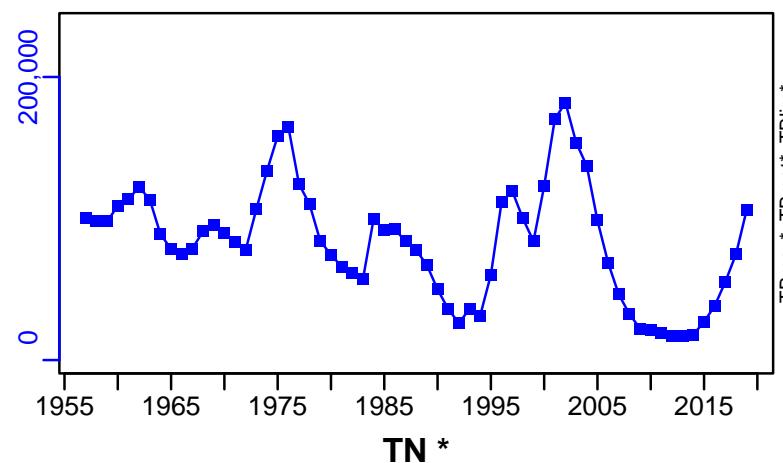
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2019	90,093	-	-	
<b>SSB</b>	SSB-MT	2020	53,800	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2020	9,950,000	-	1	
<b>F</b>	F-1/yr	2020	0.289	-	-	
<b>ER</b>	ER-ratio	2019	0.163	-	3 to 7	
<b>TC</b>	TC-MT	2020	9330			
<b>TL</b>	TL-MT	2020	9330			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2020	1.752			
<b>ER/ERmsy</b>	ER-ratio/ERmsy-ratio	2019	0.988			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2020	1.752			
<b>ER/ERmgt</b>	-	-	-			

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

### Haddock Faroe Plateau [HADFAPL]

TB-MT (1956–2019–ICESIMP2021)

SSB-MT (1957–2020–ICESIMP2021–2)

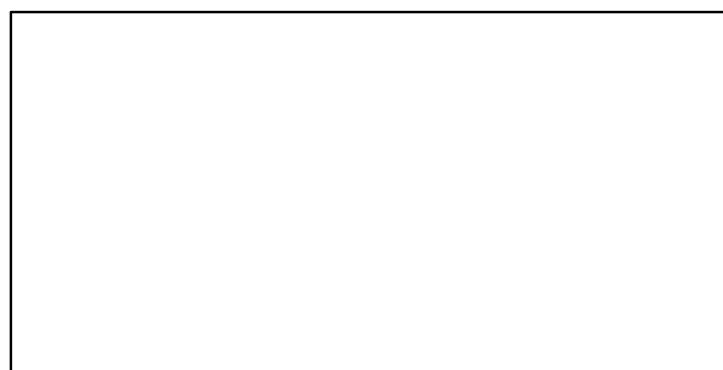
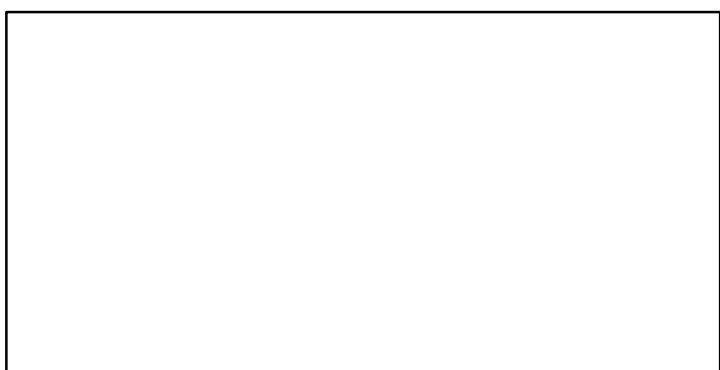
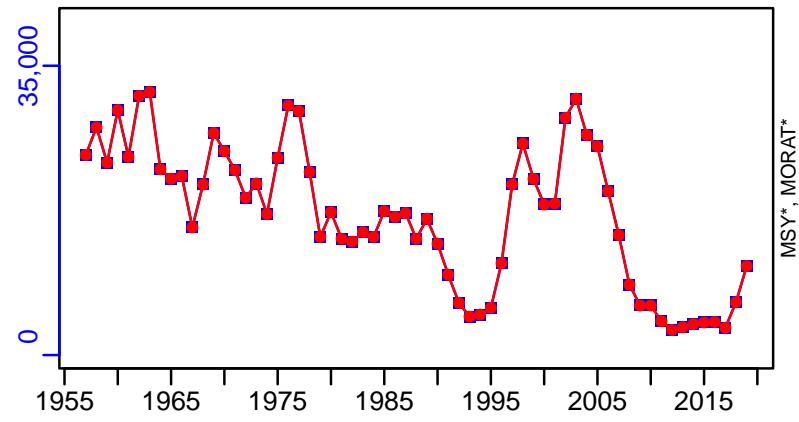


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	- - Lim BRP	* No Data

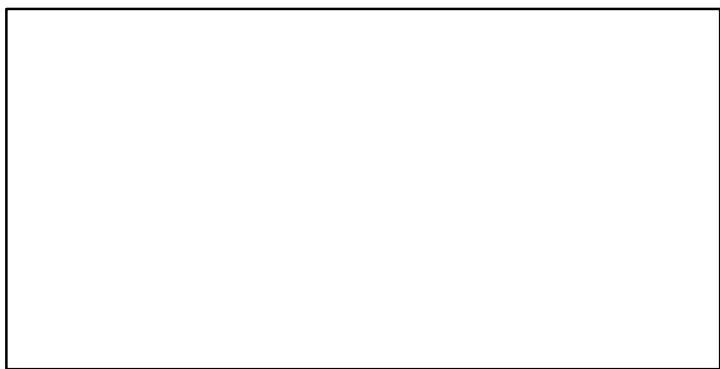
Haddock Faroe Plateau [HADFAPL]

TC-MT, TL-MT, RecC\* (1957–2020–ICESIMP2021–2)

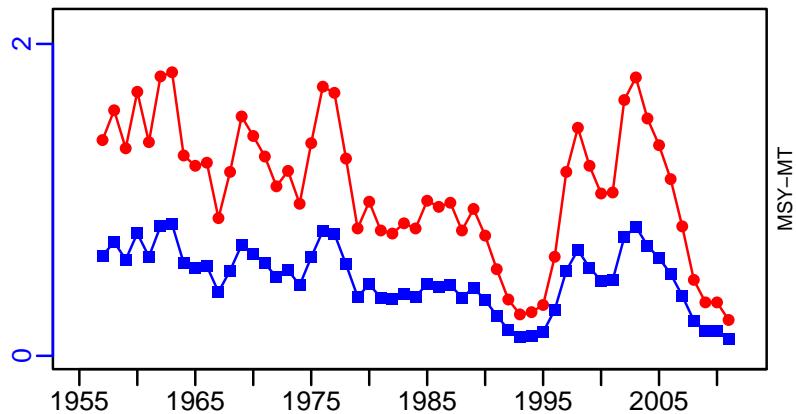
TAC\*, Cpair\*, Cadv\*



**EFFORT\***



TL-MT/MSY-MT, CdiveMEANC-ratio, (1955–2012–CHING)



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

## Haddock Georges Bank [HADGB]

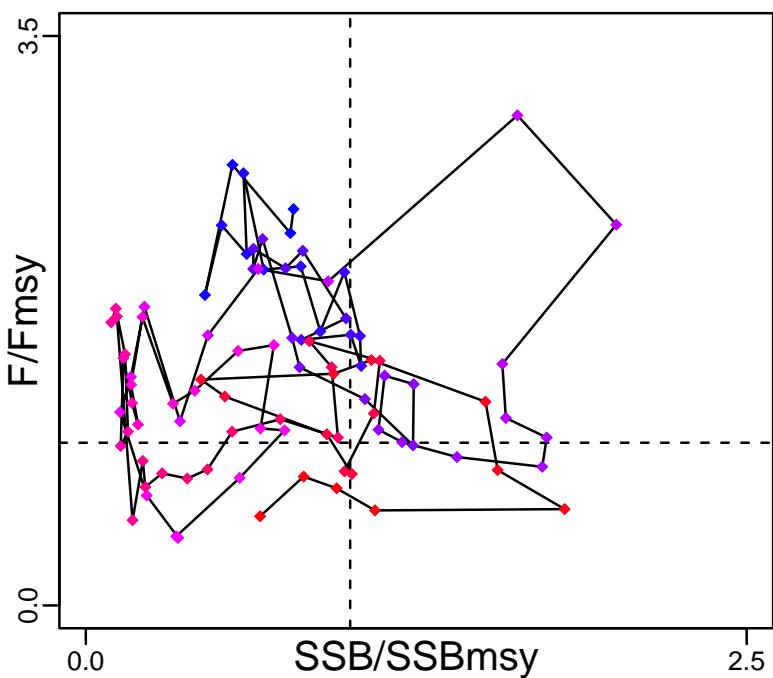
Metadata	
<b>Scientific Name</b>	Melanogrammus aeglefinus
<b>Current Assess ID</b>	NEFSC-HADGB-1930-2021-SISIMP2024
<b>Area</b>	Georges Bank
<b>Management Authority</b>	National Marine Fisheries Service, US national management
<b>Assessor</b>	Northeast Fisheries Science Center
<b>Asmts in RAM</b>	2021, 2010, 2014, 2016, 2018

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	SSBmsy-MT	2021	120,580
<b>Fmsy</b>	Fmsy-1/yr	2021	0.25
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-MT	2021	25,494
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2021	60,290
<b>Flim</b>	Flim-1/yr	2018	0.33
<b>ERlim</b>	-	-	-

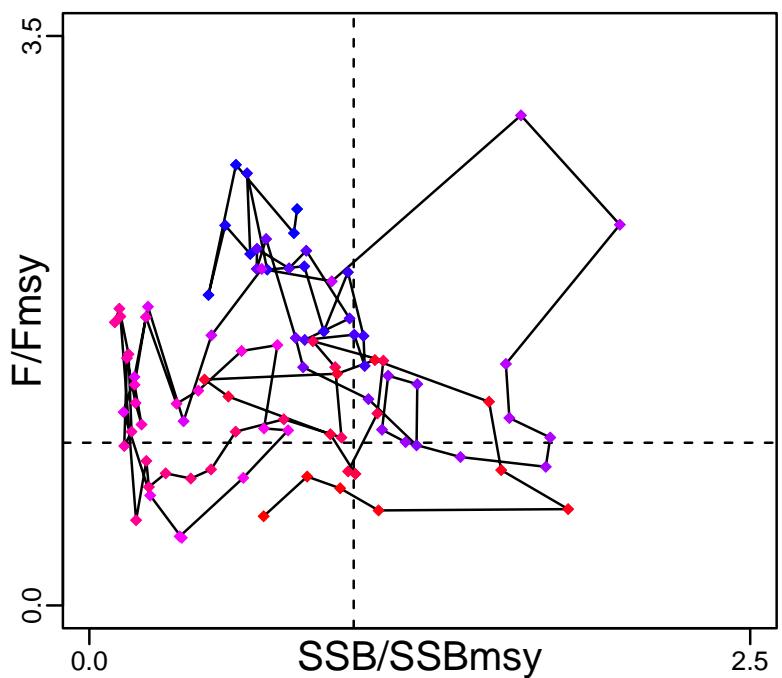
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	-	-	-	-	-	
<b>SSB</b>	SSB-MT	2021	79,513	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2021	96,151	-	1	
<b>F</b>	F-1/yr	2021	0.137	-	5 to 7	
<b>ER</b>	ER-ratio	2010	0.074	-	-	
<b>TC</b>	TC-MT	2021	10,691			
<b>TL</b>	TL-MT	2010	21,500			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2021	0.659			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2021	0.548			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

### Haddock Georges Bank [HADGB]

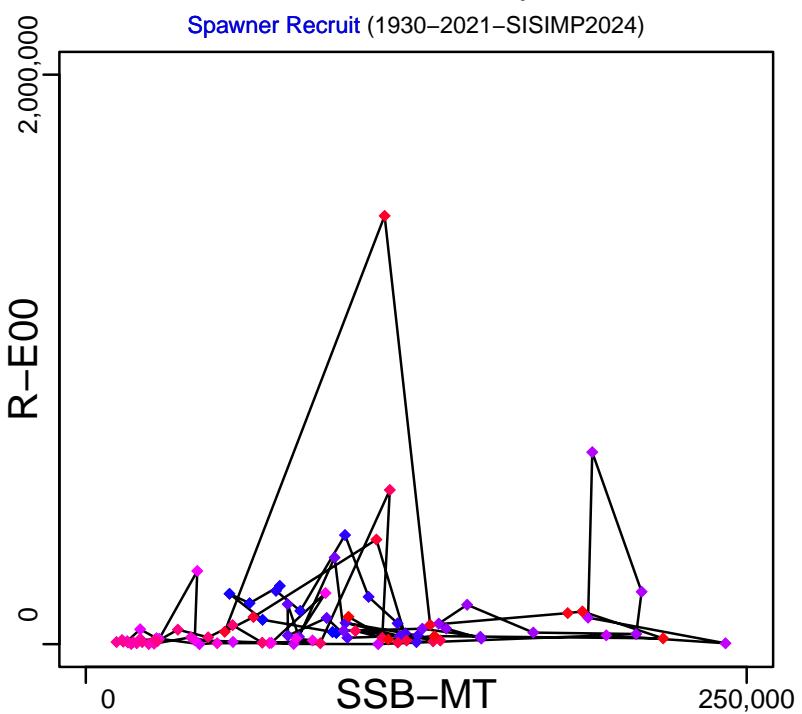
Kobe MSYpref (1930–2021–SISIMP2024)



Kobe MGTpref (1930–2021–SISIMP2024)



Spawner Recruit (1930–2021–SISIMP2024)



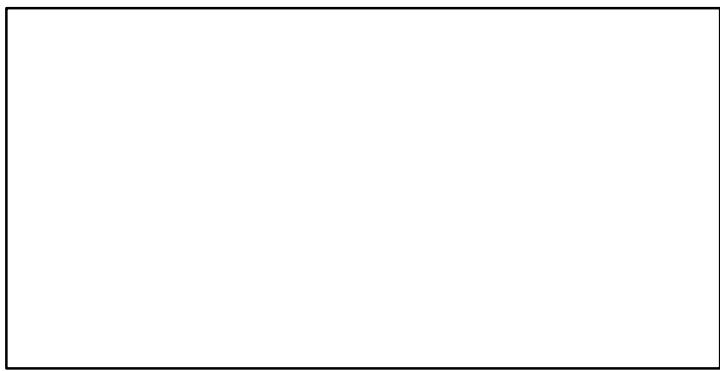
**Production\***



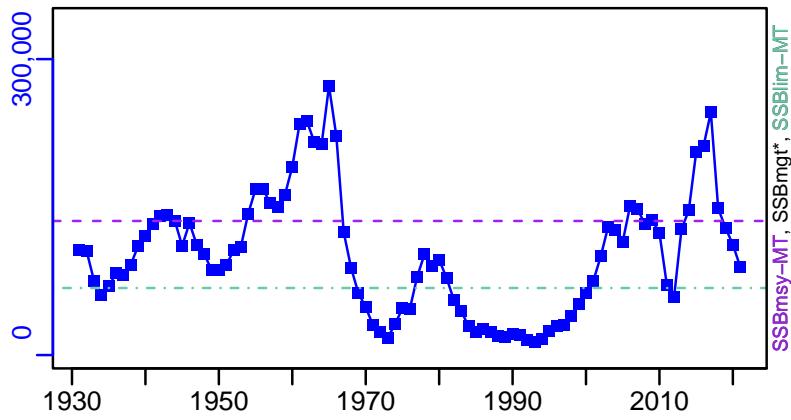
◆ Start Year   ◆ End Year   \* No Data

Haddock Georges Bank [HADGB]

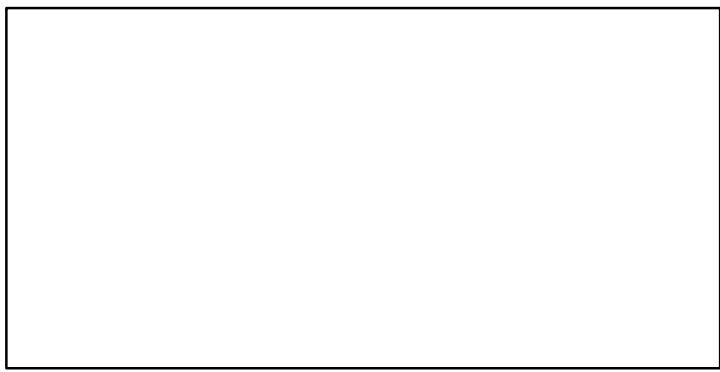
**TB\***



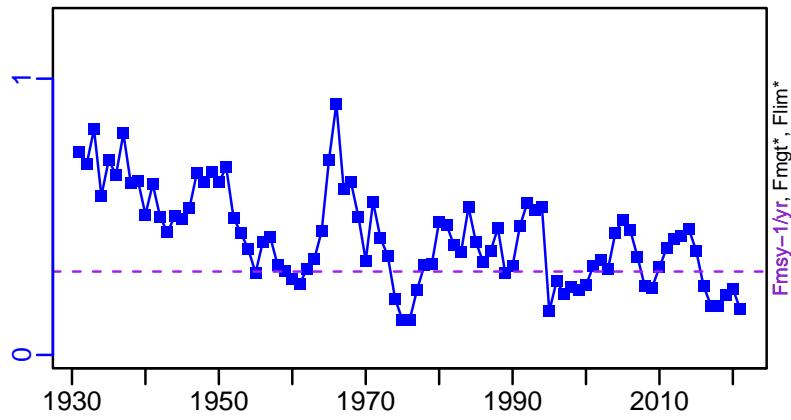
SSB-MT (1930–2021–SISIMP2024)



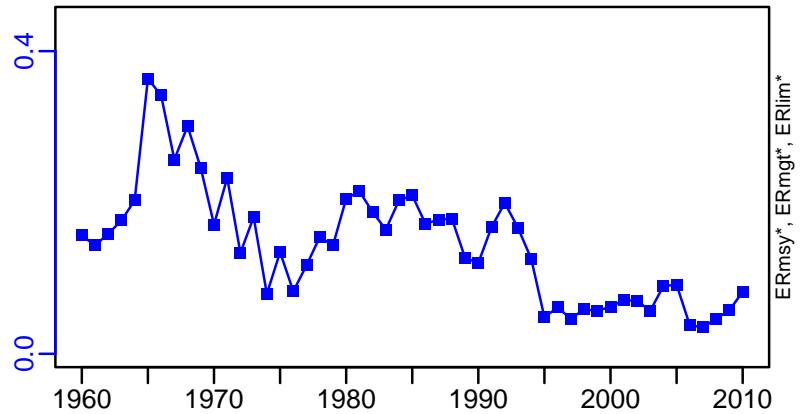
**TN \***



F-1/yr (1930–2021–SISIMP2024)

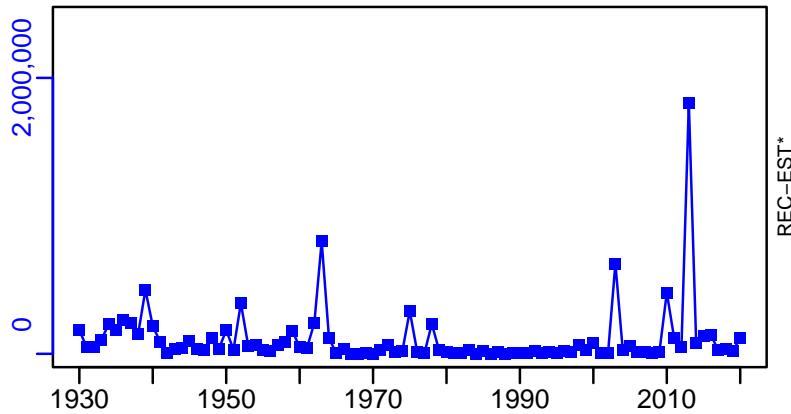


ER-ratio (1931–2010–CHING)



ERmsy\*, ERmgt\*, ERlim\*

R-E00 (1930–2021–SISIMP2024)

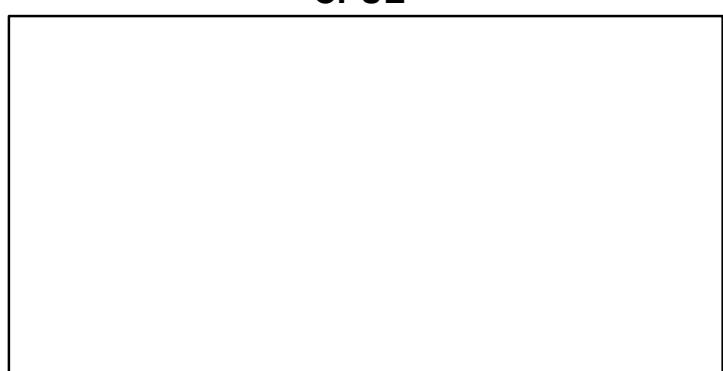
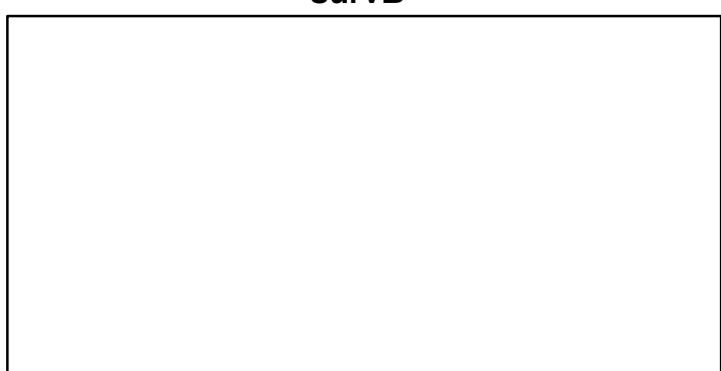
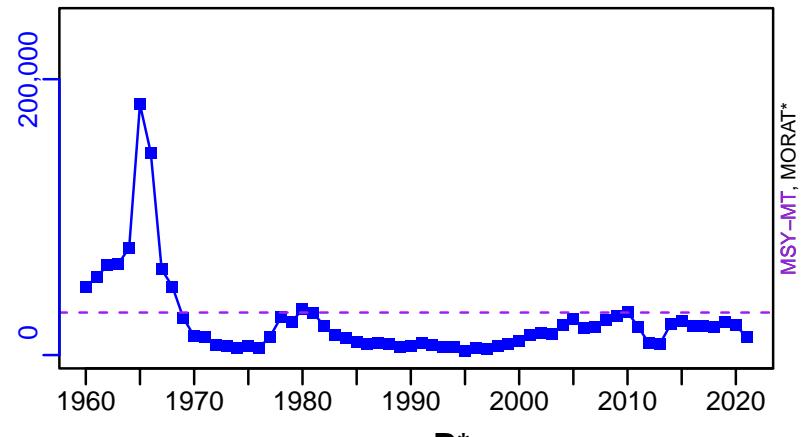


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	- - Lim BRP	* No Data

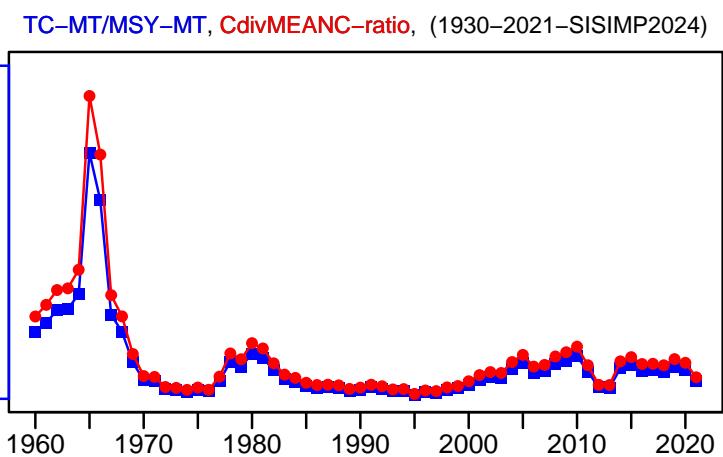
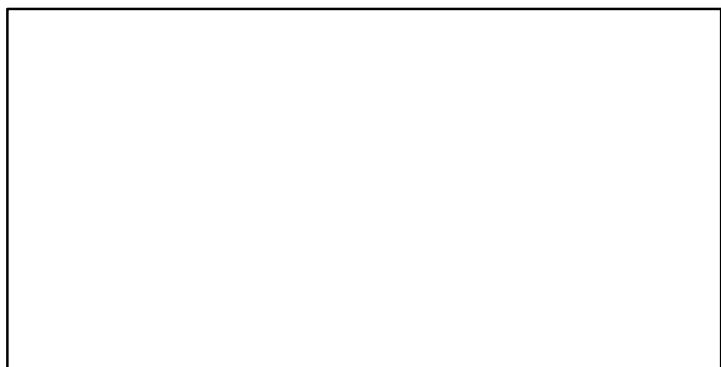
### Haddock Georges Bank [HADGB]

TC-MT, TL\*, RecC\* (1930–2021–SISIMP2024)

TAC\*, Cpair\*, Cadv\*



**EFFORT\***



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

## Haddock Iceland Grounds [HADICE]

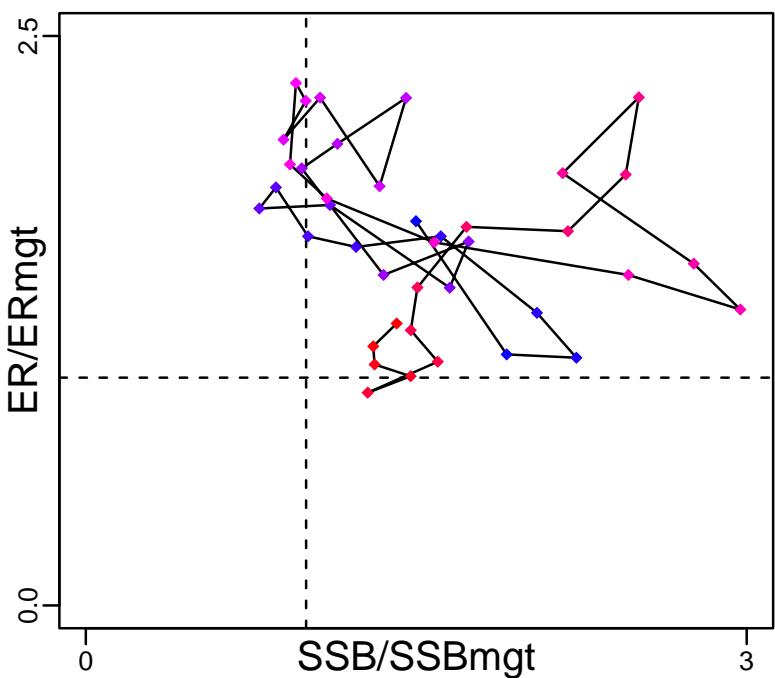
Metadata	
<b>Scientific Name</b>	Melanogrammus aeglefinus
<b>Current Assess ID</b>	NWWG-HADICE-1977-2023-ICESIMP2024
<b>Area</b>	Iceland Grounds
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	North-Western Working Group
<b>Asmts in RAM</b>	2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2023, 2020, 2021

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	2023	49,400
<b>Fmgt</b>	Fmgt-1/yr	2023	0.35
<b>ERmgt</b>	ERmgt-ratio	2019	0.35
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2023	35,500
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

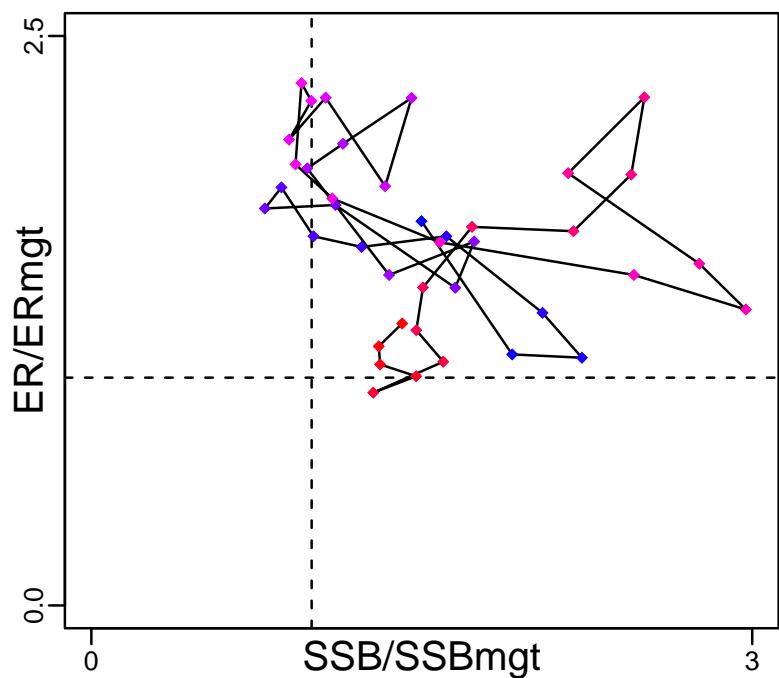
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2023	172,195	-	-	
<b>SSB</b>	SSB-MT	2023	113,562	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2023	106,012	-	2	
<b>F</b>	F-1/yr	2018	0.368	-	4 to 7	
<b>ER</b>	ER-ratio	2023	0.4	-	4 to 7	
<b>TC</b>	TC-MT	2023	58,559			
<b>TL</b>	TL-MT	2023	58,559			
<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	2023	2.299			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

### Haddock Iceland Grounds [HADICE]

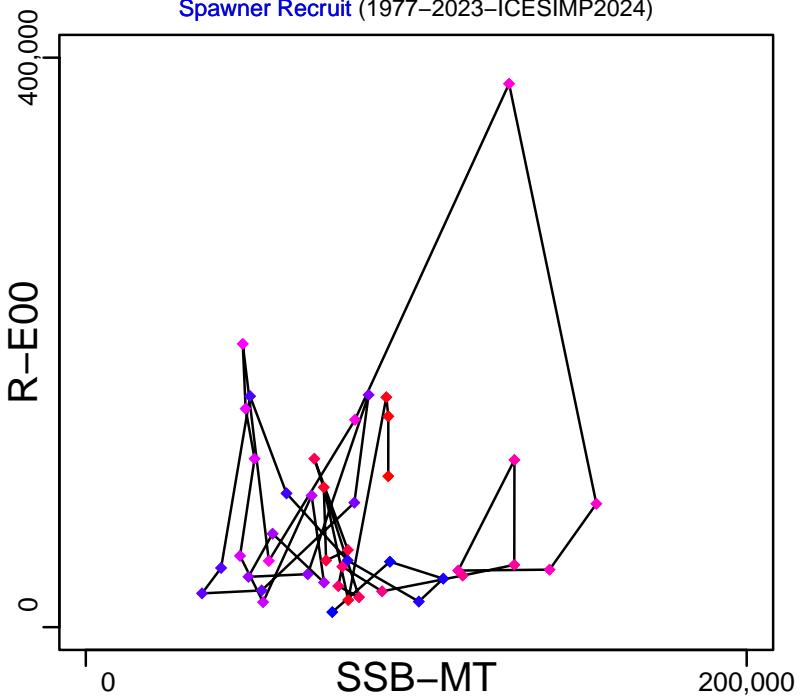
Kobe MSYpref (1977–2019–ICESIMP2021)



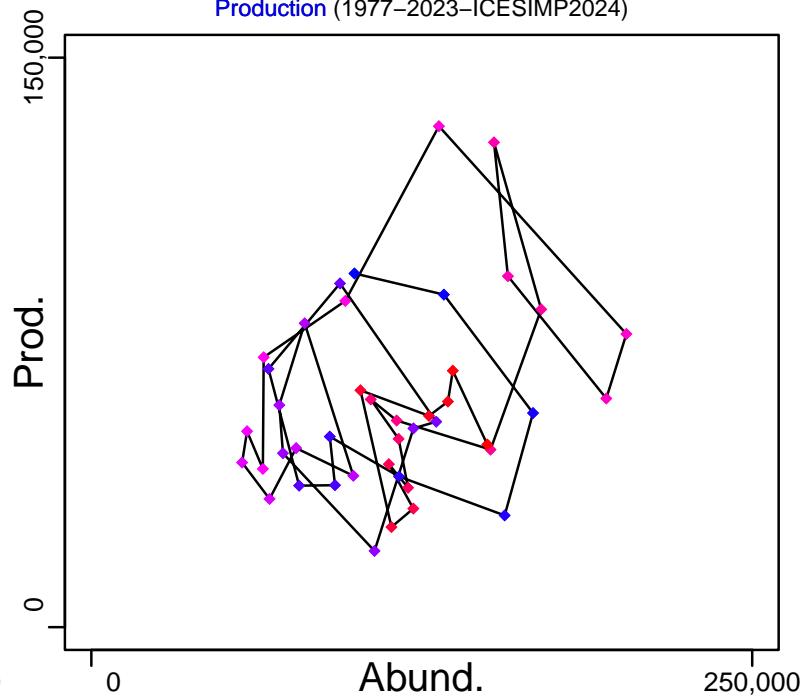
Kobe MGTpref (1977–2019–ICESIMP2021)



Spawner Recruit (1977–2023–ICESIMP2024)



Production (1977–2023–ICESIMP2024)

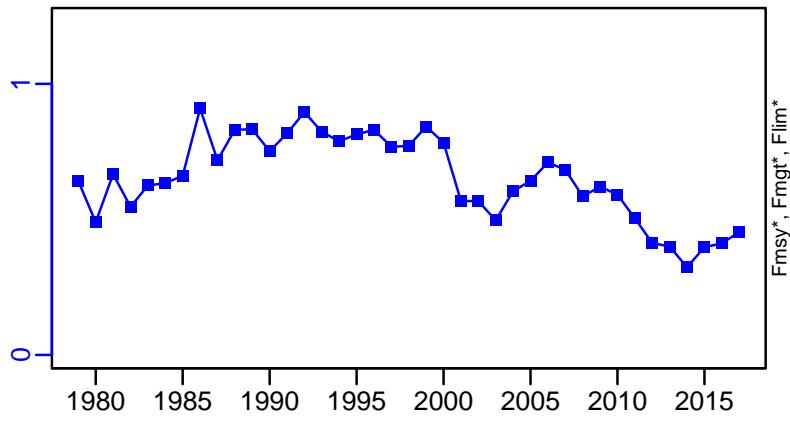
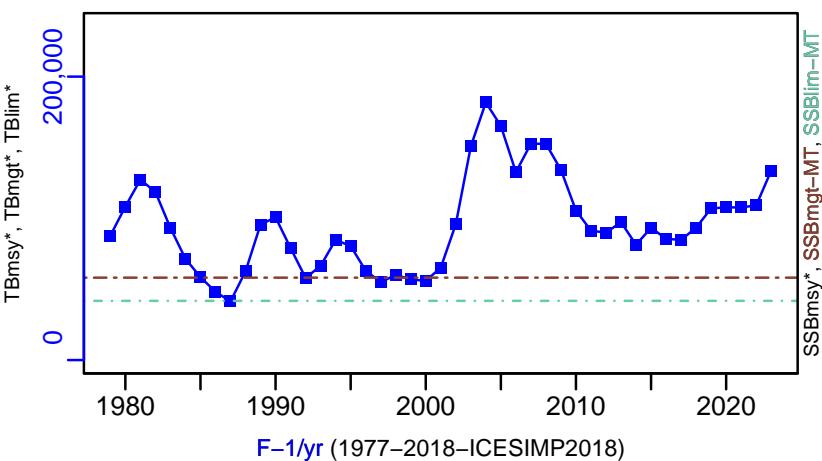
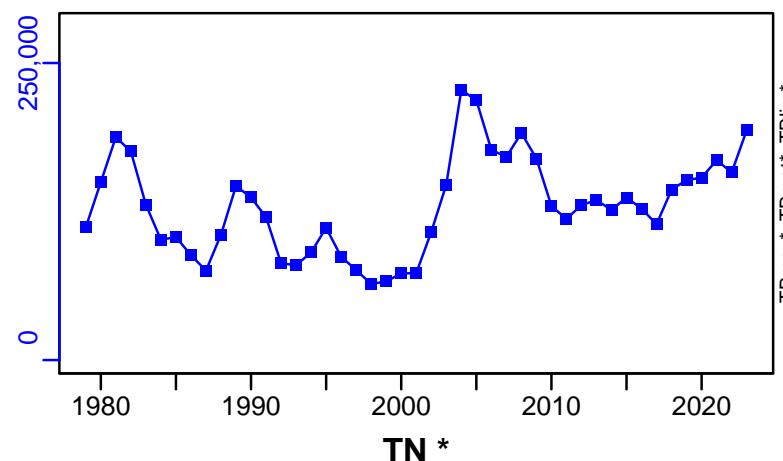


◆ Start Year ♦ End Year \* No Data

### Haddock Iceland Grounds [HADICE]

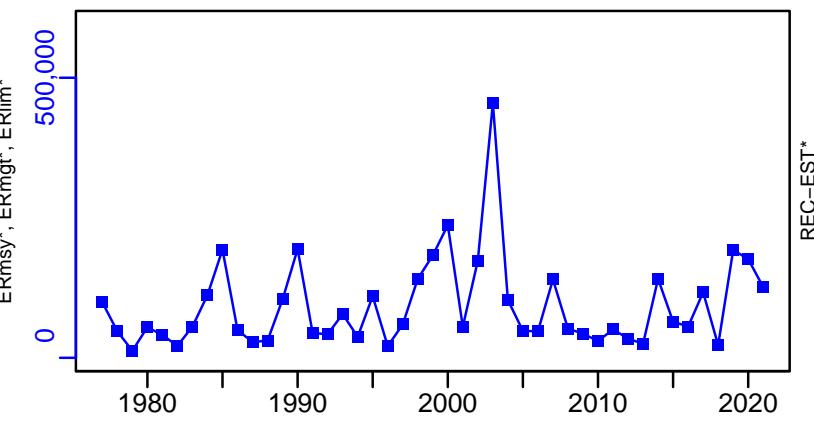
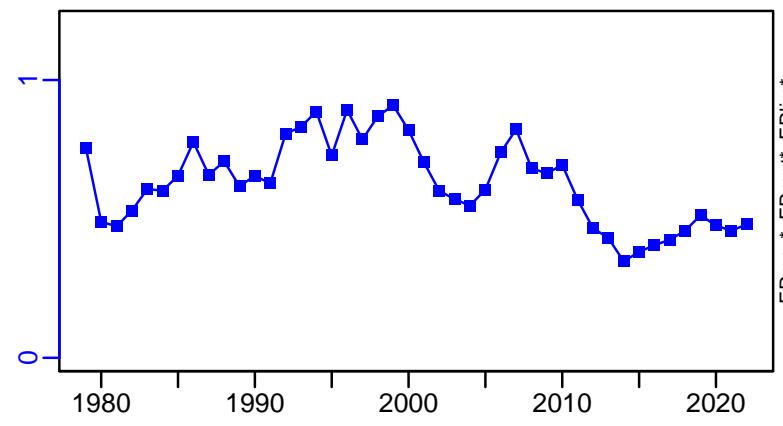
TB-MT (1977–2023–ICESIMP2024)

SSB-MT (1977–2023–ICESIMP2024)



ER-ratio (1977–2023–ICESIMP2024)

R-E00 (1977–2023–ICESIMP2024)

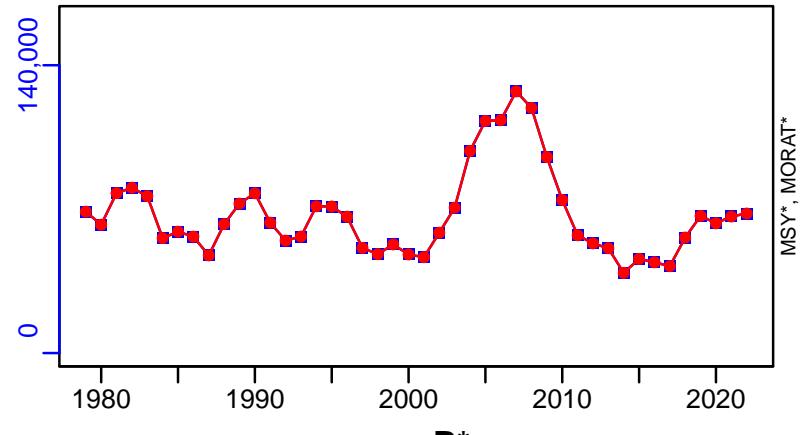


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	--- Lim BRP	* No Data

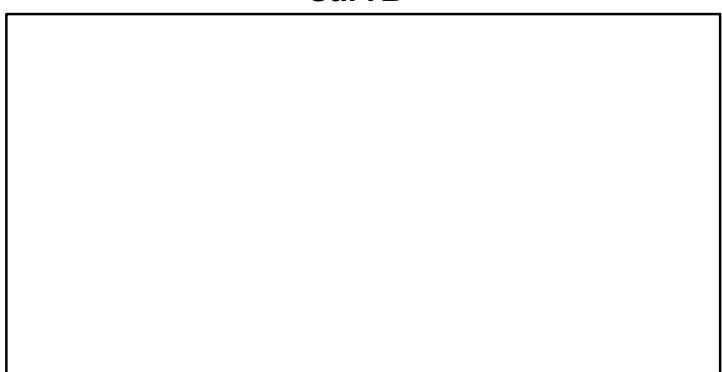
### Haddock Iceland Grounds [HADICE]

TC-MT, TL-MT, RecC\* (1977–2023–ICESIMP2024)

TAC\*, Cpair\*, Cadv\*



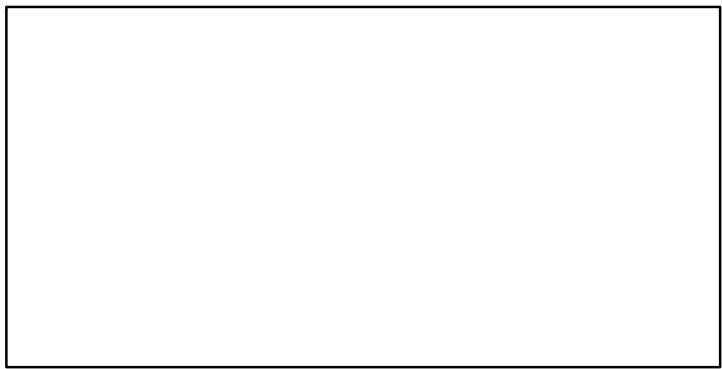
MSY\*, MORAT\*



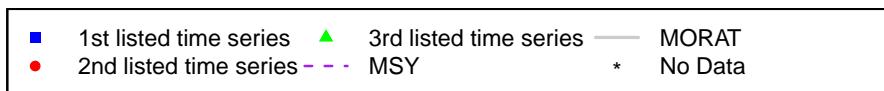
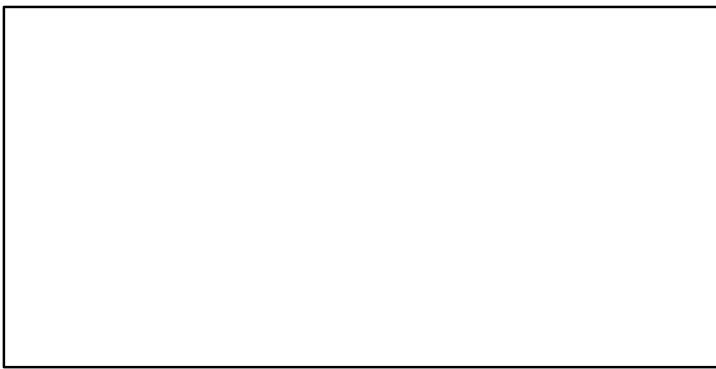
CPUE\*



EFFORT\*



CdivMSY\*



## Haddock Irish Sea [HADIS]

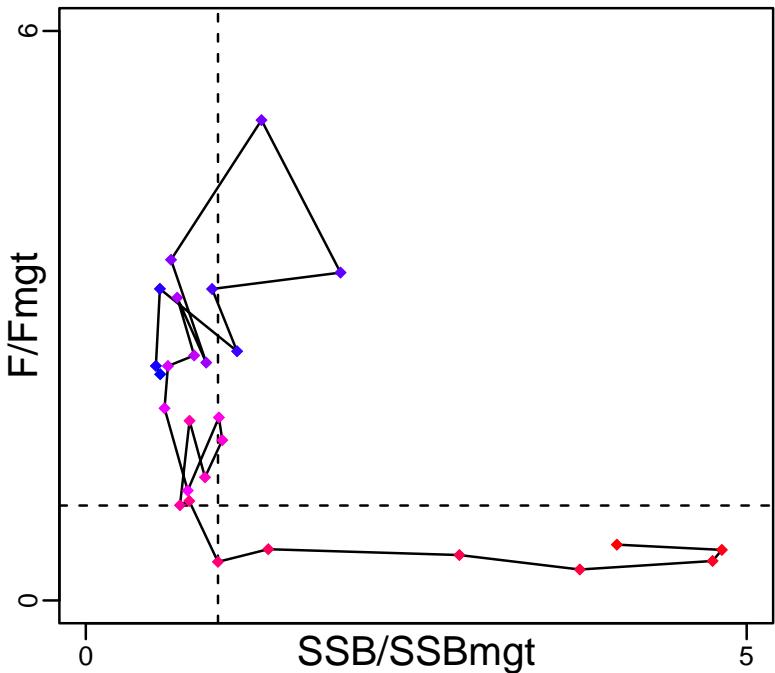
Metadata	
<b>Scientific Name</b>	Melanogrammus aeglefinus
<b>Current Assess ID</b>	WGCSE-HADIS-1993-2021-ICESIMP2021-2
<b>Area</b>	Irish Sea
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on Celtic Seas Ecosystems
<b>Asmts in RAM</b>	2014, 2015, 2016, 2016, 2017, 2019, 2020, 2021, 2012

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2021	0.28
<b>ERrmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2020	4281
<b>Fmgt</b>	Fmgt-1/yr	2021	0.28
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2021	2990
<b>Flim</b>	Flim-1/yr	2021	0.53
<b>ERlim</b>	-	-	-

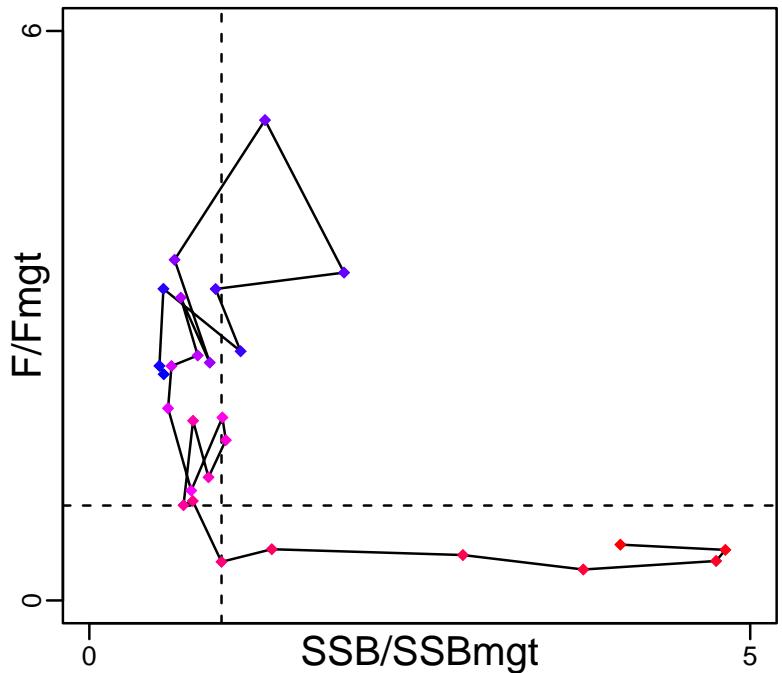
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2019	28,668	-	-
<b>SSB</b>	SSB-MT	2021	17,400	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2021	372,000	-	0
<b>F</b>	F-1/yr	2021	0.066	-	-
<b>ER</b>	ER-calc-ratio	2019	0.089	-	-
<b>TC</b>	TC-MT	2021	975		
<b>TL</b>	TL-MT	2021	742		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2021	0.235		
<b>ER/ERrmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2020	3.971		
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2021	0.235		
<b>ER/ERmgt</b>	-	-	-		

Haddock Irish Sea [HADIS]

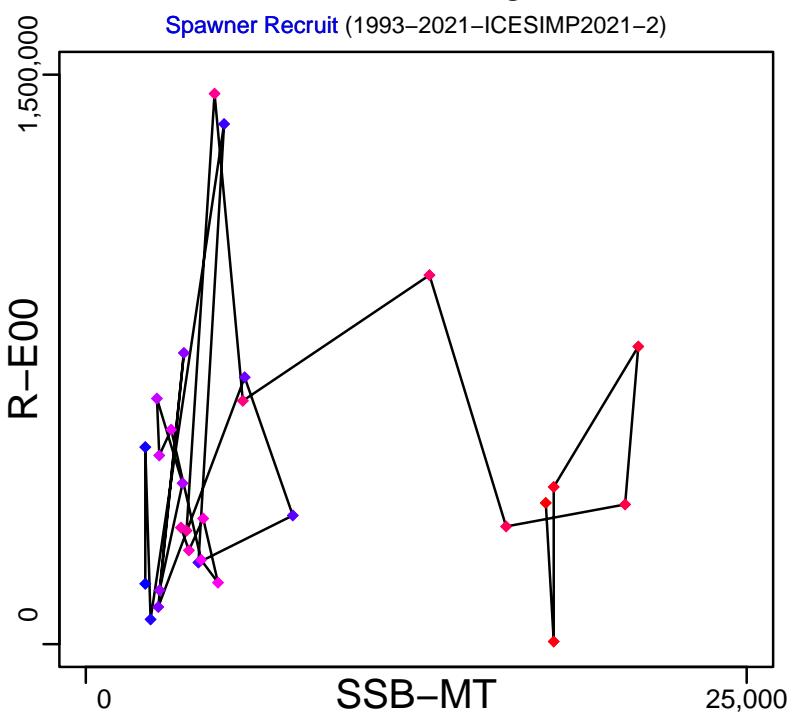
Kobe MSYpref (1993–2020–ICESIMP2021–2)



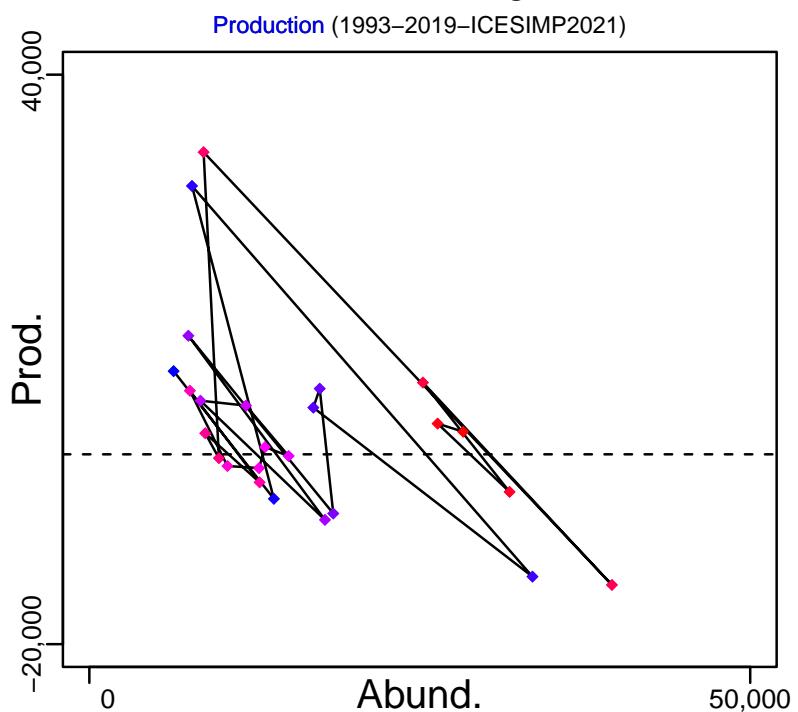
Kobe MGTpref (1993–2020–ICESIMP2021–2)



Spawner Recruit (1993–2021–ICESIMP2021–2)



Production (1993–2019–ICESIMP2021)

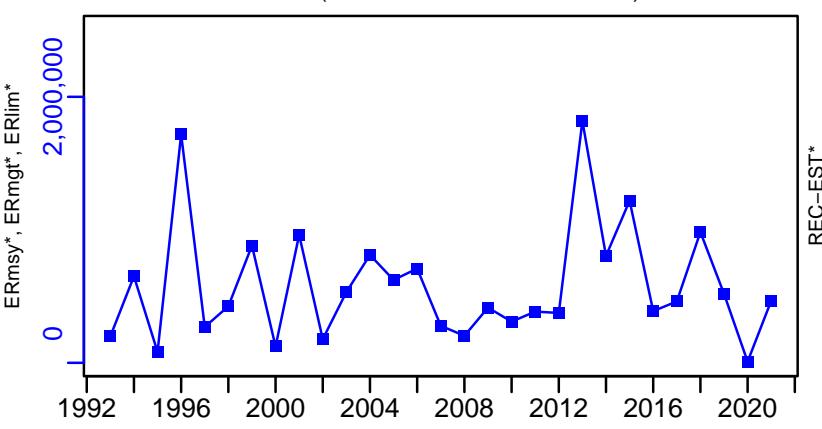
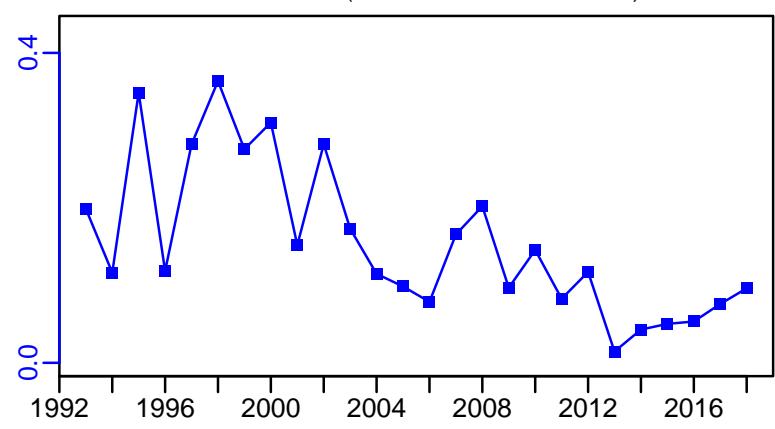
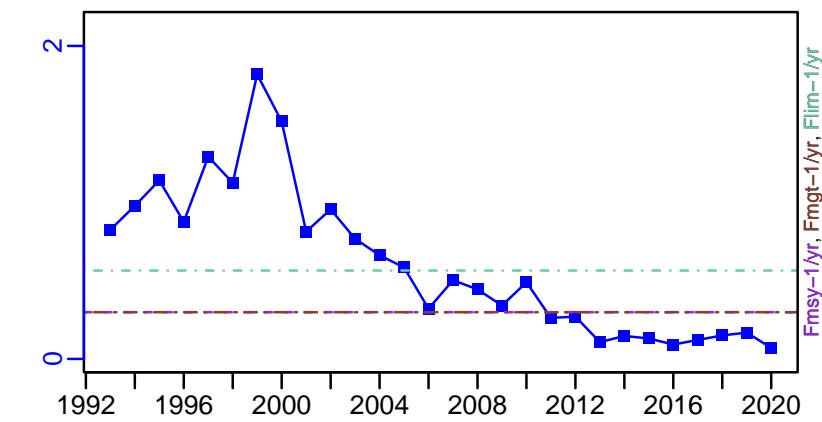
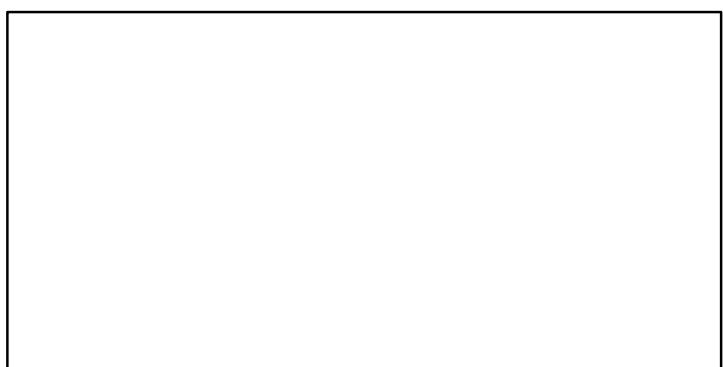
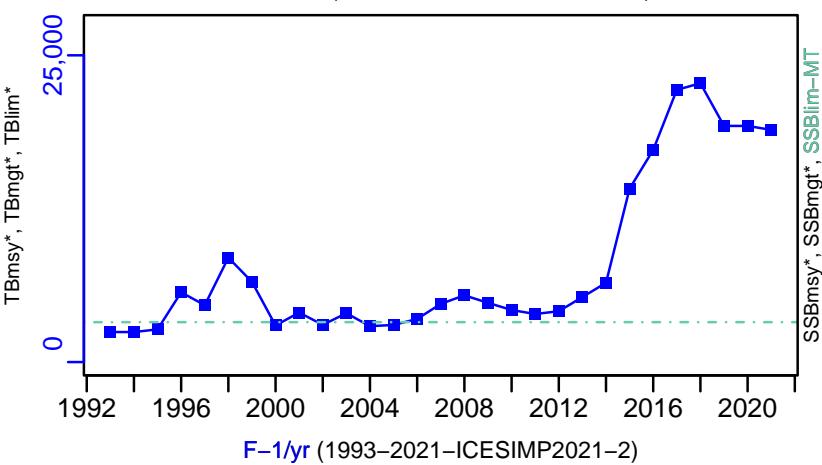
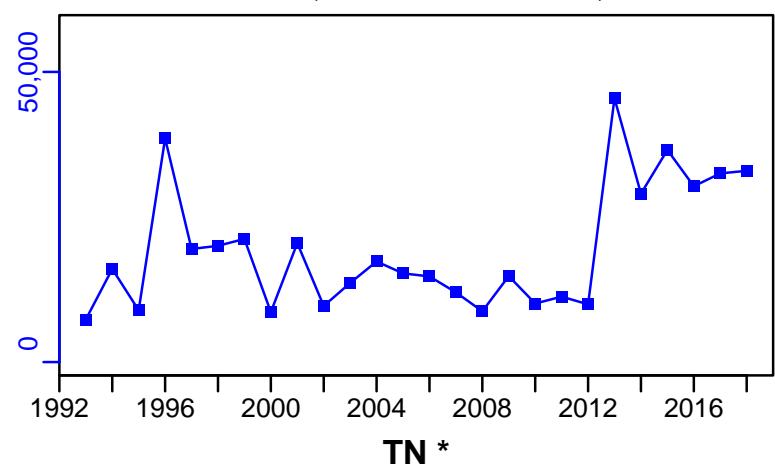


◆ Start Year ♦ End Year \* No Data

### Haddock Irish Sea [HADIS]

TB-MT (1993–2019–ICESIMP2021)

SSB-MT (1993–2021–ICESIMP2021–2)

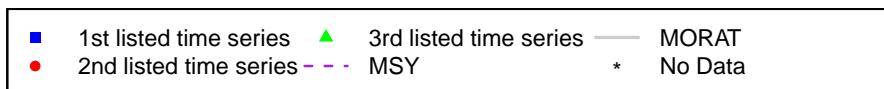
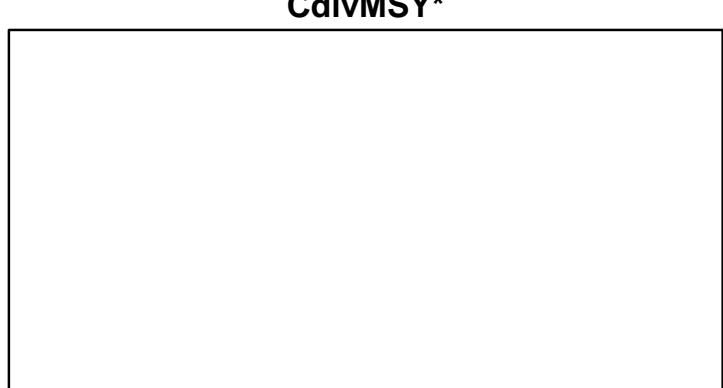
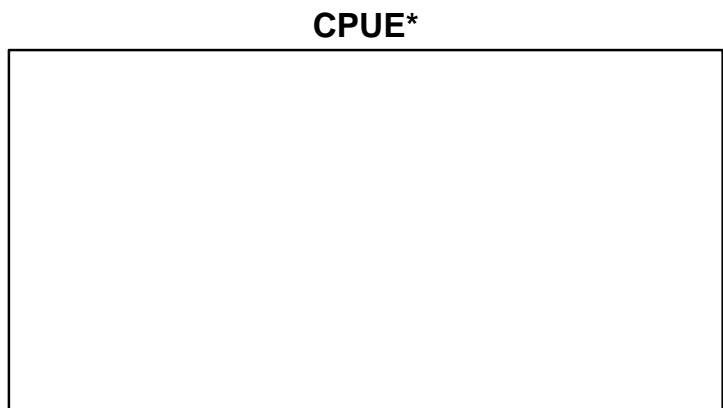
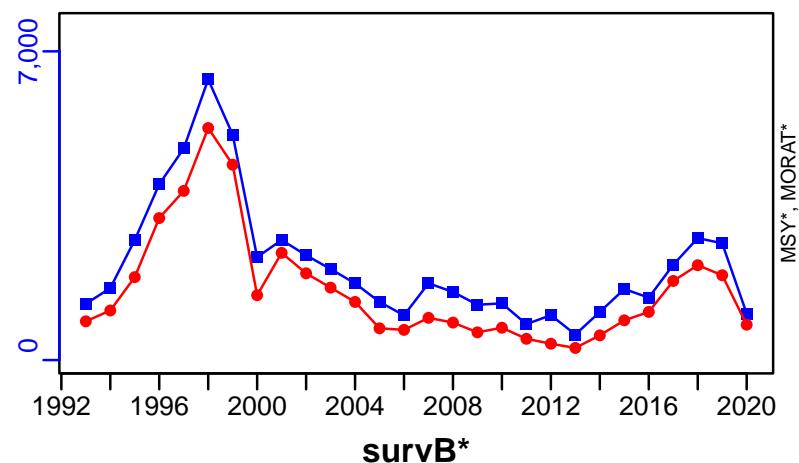


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	- - Lim BRP	* No Data

Haddock Irish Sea [HADIS]

TC-MT, TL-MT, RecC\* (1993–2021–ICESIMP2021–2)

TAC\*, Cpair\*, Cadv\*



## Haddock North-East Arctic [HADNEAR]

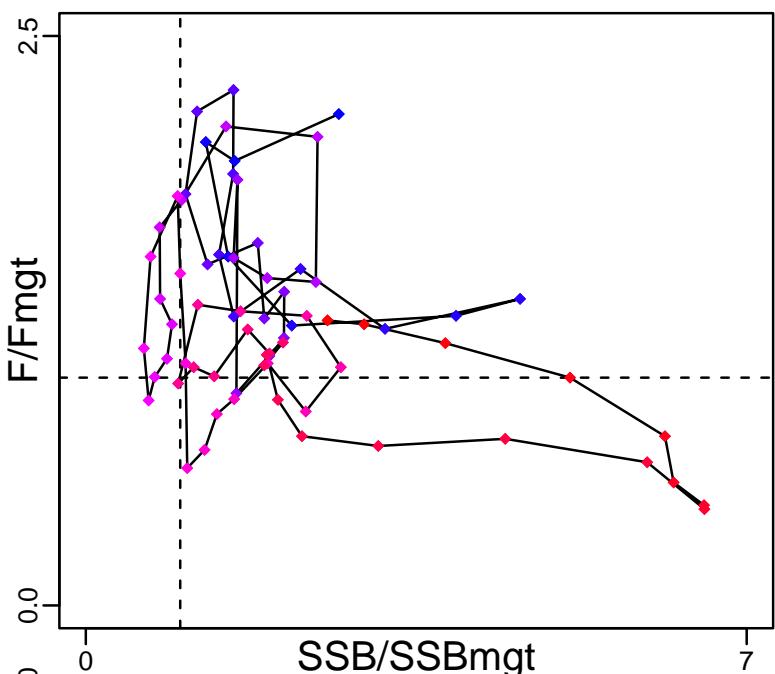
Metadata	
<b>Scientific Name</b>	Melanogrammus aeglefinus
<b>Current Assess ID</b>	AFWG-HADNEAR-1947-2021-ICESIMP2022
<b>Area</b>	North-East Arctic
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Arctic Fisheries Working Group
<b>Asmts in RAM</b>	2012, 2013, 2014, 2015, 2016, 2017, 2019, 2021, 2020

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2017	0.35
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2021	80,000
<b>Fmgt</b>	Fmgt-1/yr	2021	0.35
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2021	50,000
<b>Flim</b>	Flim-1/yr	2021	0.77
<b>ERlim</b>	-	-	-

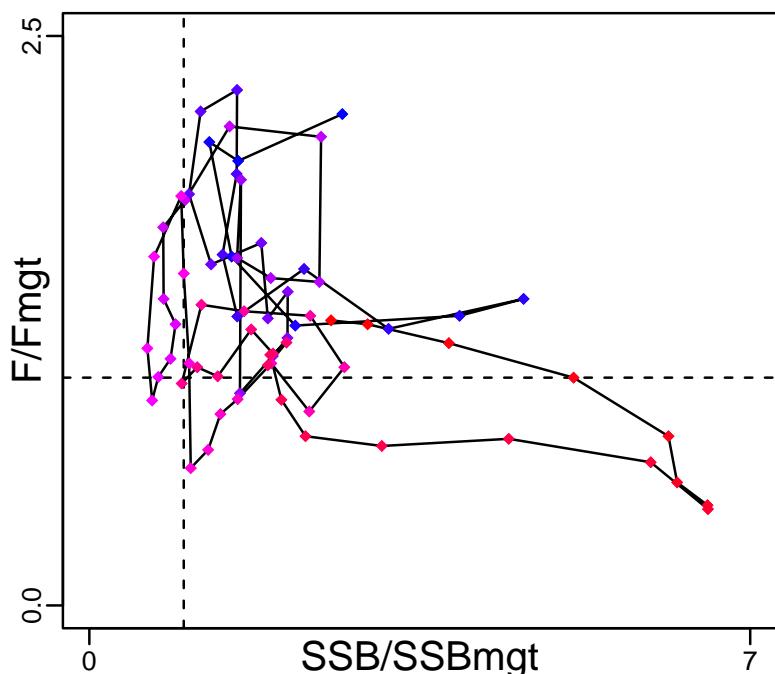
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2021	643,906	-	-	
<b>SSB</b>	SSB-MT	2021	199,478	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2021	158,028,000	-	3	
<b>F</b>	F-1/yr	2021	0.438	-	4 to 7	
<b>ER</b>	ER-calc-ratio	2021	0.253	-	-	
<b>TC</b>	TC-MT	2021	182,468			
<b>TL</b>	TL-MT	2021	182,468			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2017	0.571			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2021	2.493			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2021	1.251			
<b>ER/ERmgt</b>	-	-	-			

Haddock North–East Arctic [HADNEAR]

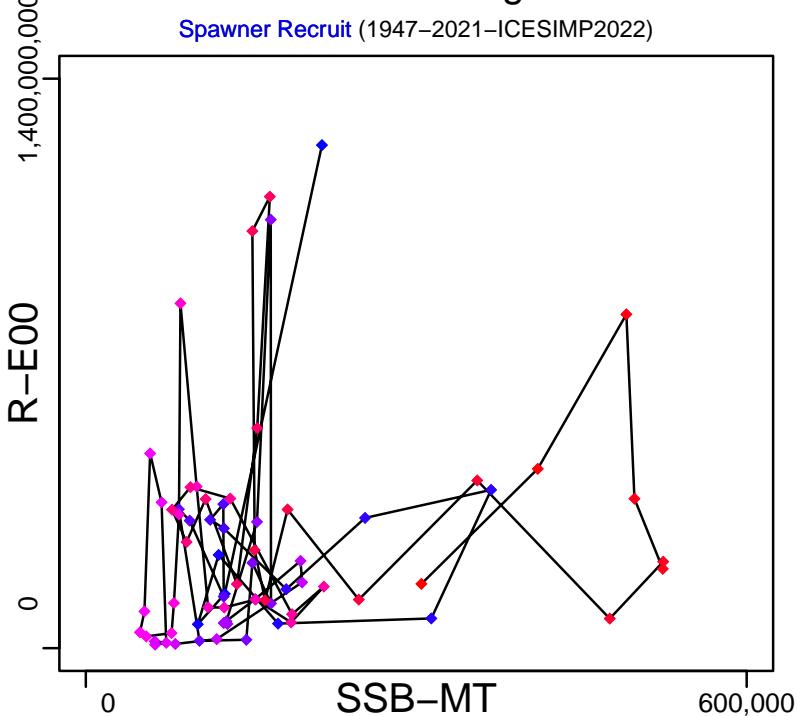
Kobe MSYpref (1947–2021–ICESIMP2022)



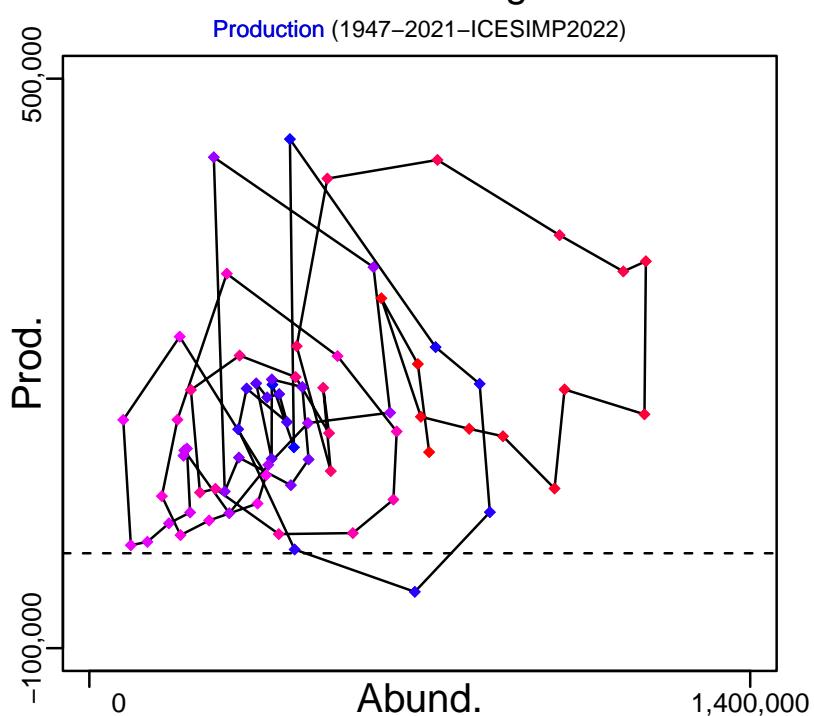
Kobe MGTpref (1947–2021–ICESIMP2022)



Spawner Recruit (1947–2021–ICESIMP2022)



Production (1947–2021–ICESIMP2022)

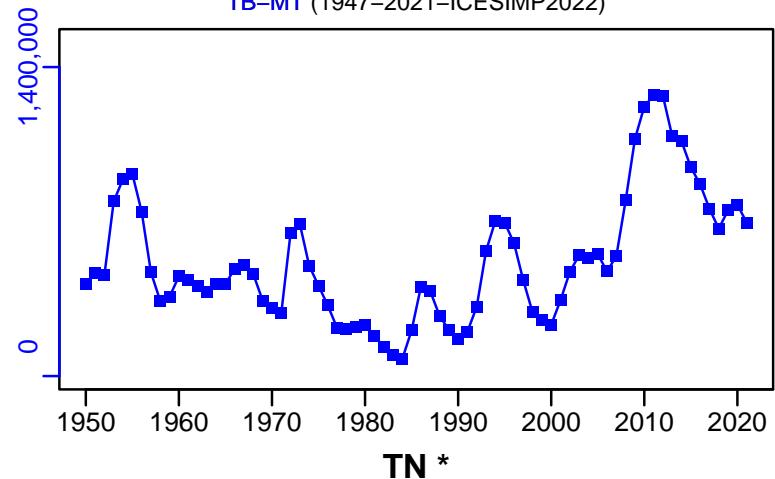


◆ Start Year   ◆ End Year   \* No Data

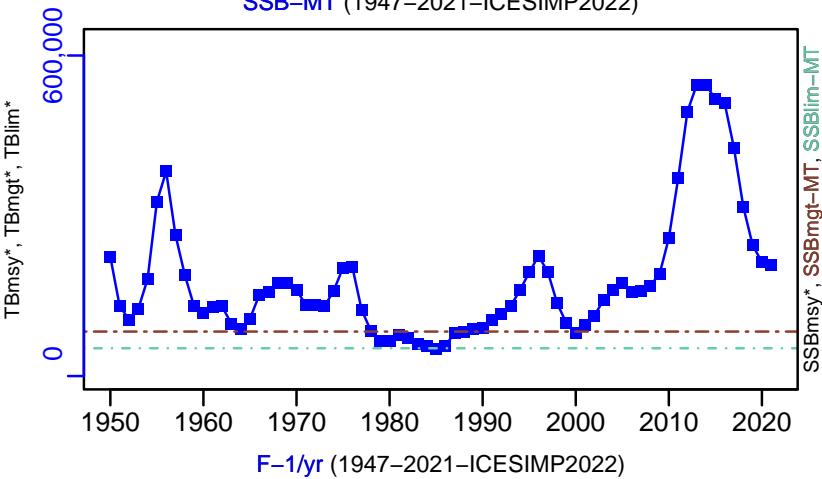
### Haddock North–East Arctic [HADNEAR]

TB-MT (1947–2021–ICESIMP2022)

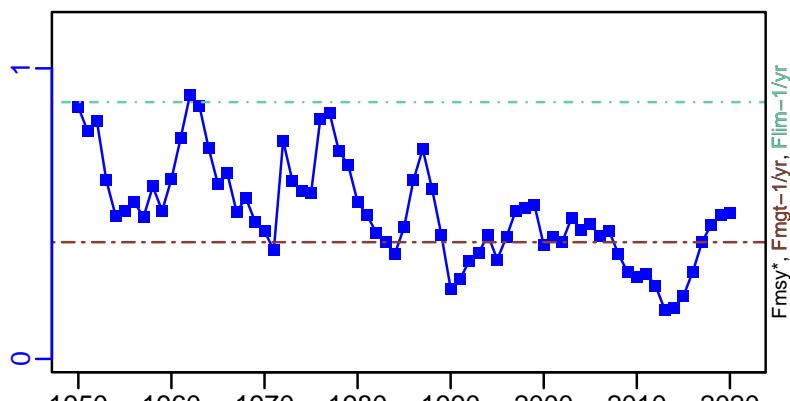
SSB-MT (1947–2021–ICESIMP2022)



TN \*

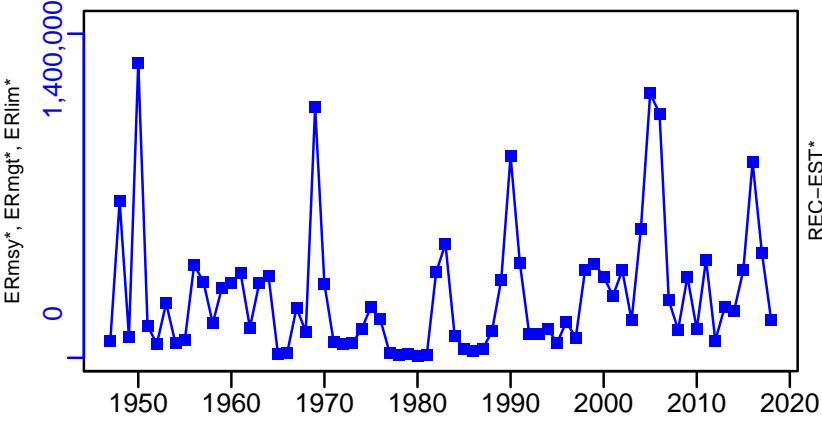
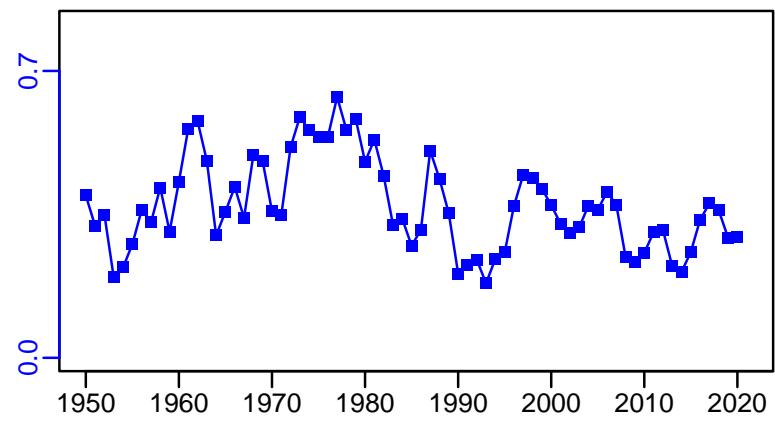


SSB-MT (1947–2021–ICESIMP2022)



F-1/yr (1947–2021–ICESIMP2022)

ER-calc-ratio (1947–2021–ICESIMP2022)



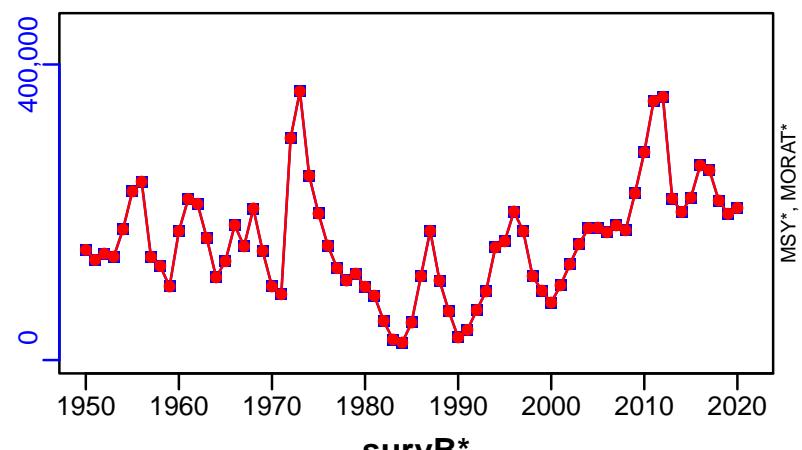
REC-EST\*

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

Haddock North–East Arctic [HADNEAR]

TC–MT, TL–MT, RecC\* (1947–2021–ICESIMP2022)

TAC\*, Cpair\*, Cadv\*

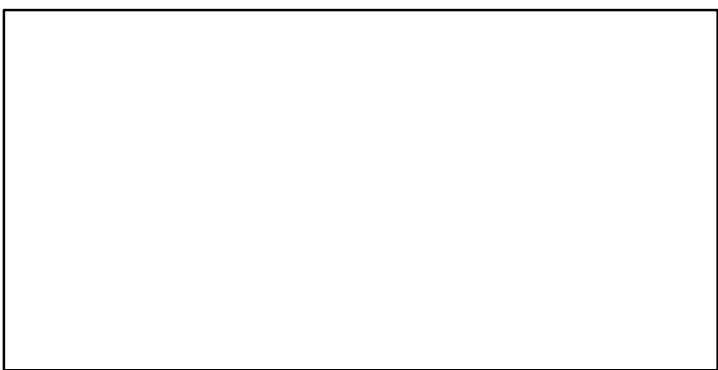


survB\*

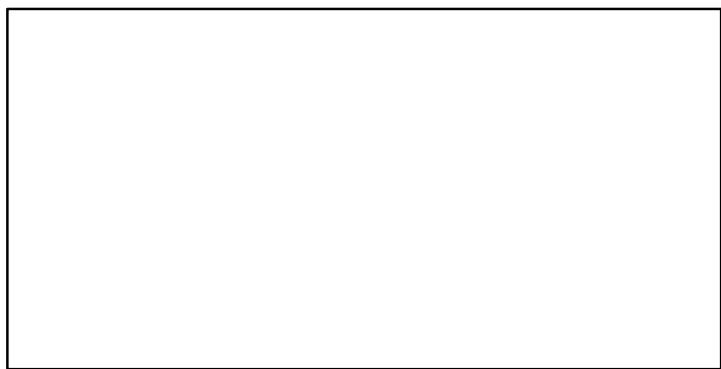
MSY\*, MORAT\*



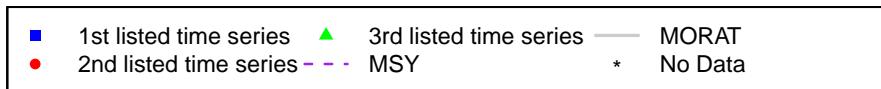
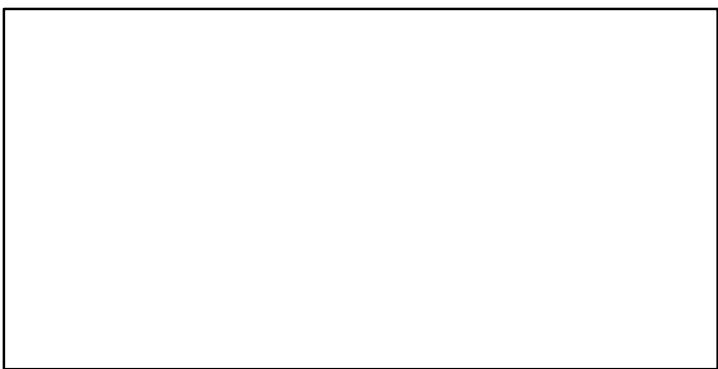
CPUE\*



EFFORT\*



CdivMSY\*

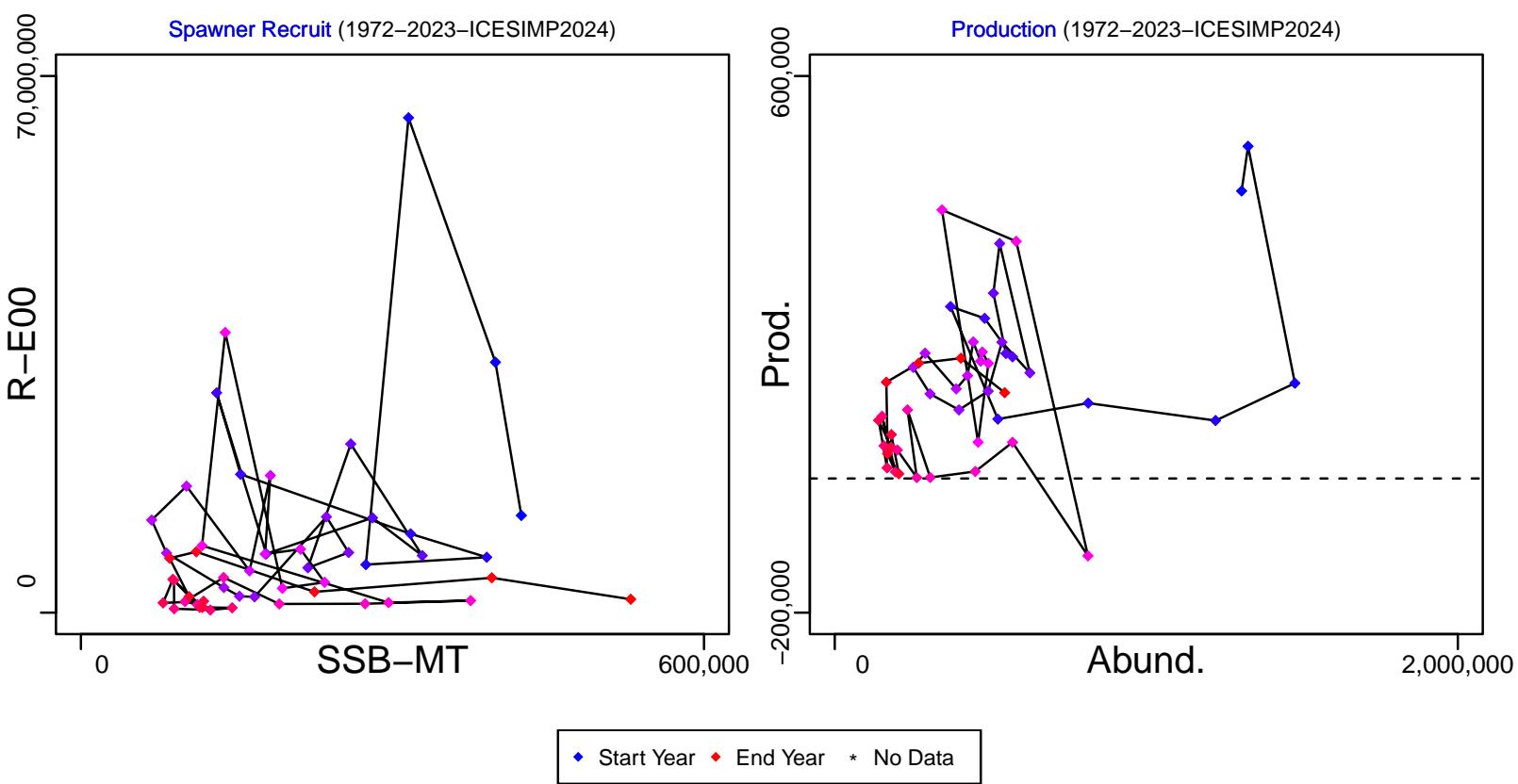


## Haddock ICES 3a-4-6a [HADNS-IIIA-VIa]

Metadata	
<b>Scientific Name</b>	Melanogrammus aeglefinus
<b>Current Assess ID</b>	WGNSSK-HADNS-IIIA-VIa-1972-2023-ICESIMP2024
<b>Area</b>	ICES 3a-4-6a
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak
<b>Asmts in RAM</b>	2014, 2015, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2023

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2023	0.24
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	Fmgt-1/yr	2023	0.24
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2023	136,541
<b>Flim</b>	Flim-1/yr	2023	0.43
<b>ERlim</b>	-	-	-

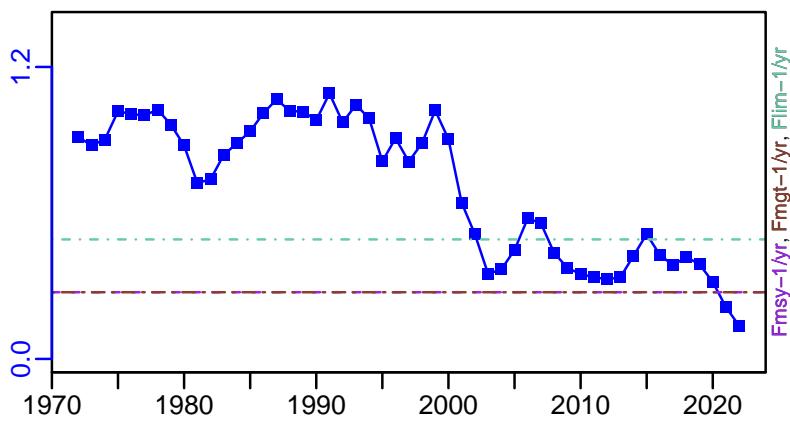
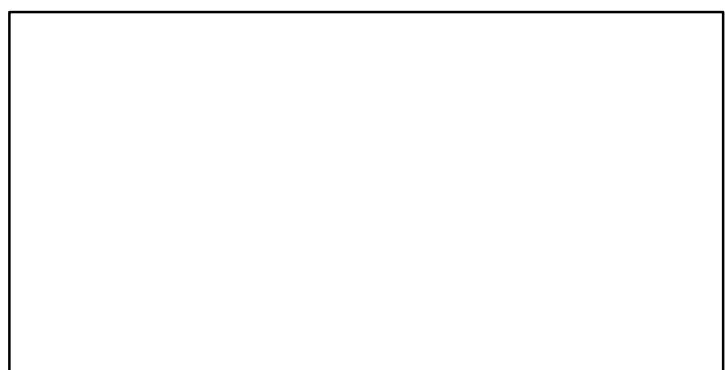
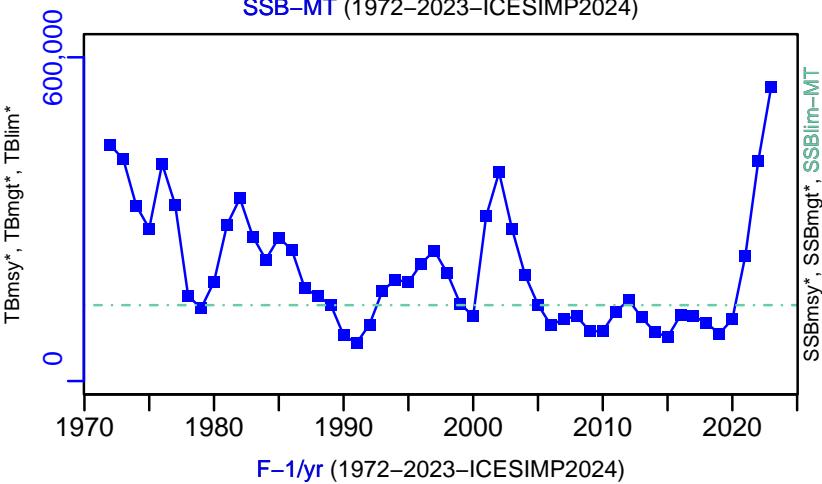
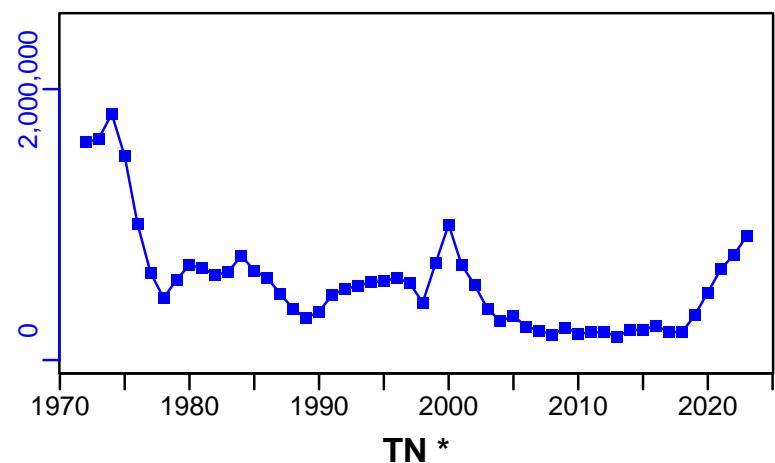
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2023	743,019	-	-	
<b>SSB</b>	SSB-MT	2023	529,443	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2023	1,746,116	-	0	
<b>F</b>	F-1/yr	2023	0.119	-	2 to 4	
<b>ER</b>	ER-calc-ratio	2023	0.09	-	-	
<b>TC</b>	TC-MT	2023	56,849			
<b>TL</b>	TL-MT	2023	37,392			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2023	0.496			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2023	0.496			
<b>ER/ERmgt</b>	-	-	-			

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

Haddock ICES 3a–4–6a [HADNS–IIIa–VIa]

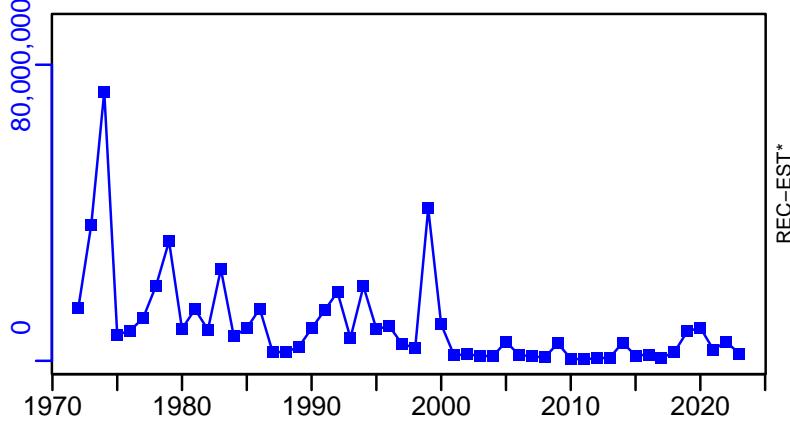
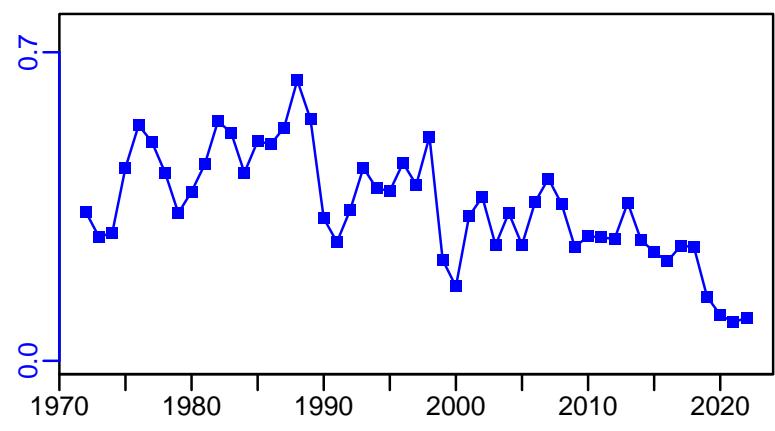
TB-MT (1972–2023–ICESIMP2024)

SSB-MT (1972–2023–ICESIMP2024)



ER-calc-ratio (1972–2023–ICESIMP2024)

R-E00 (1972–2023–ICESIMP2024)

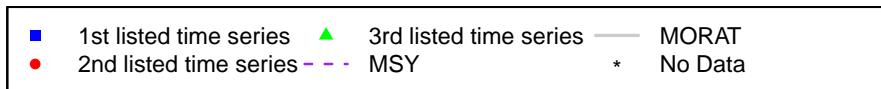
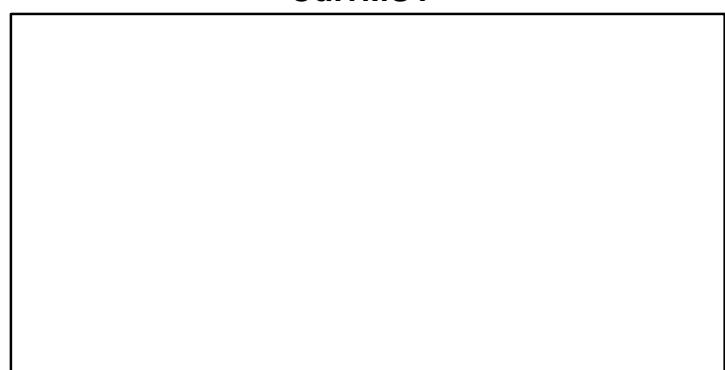
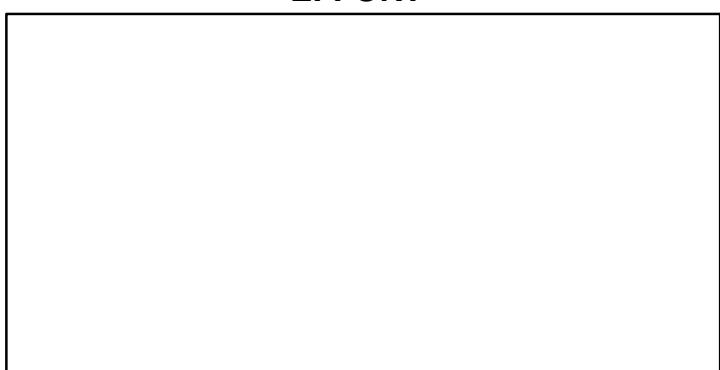
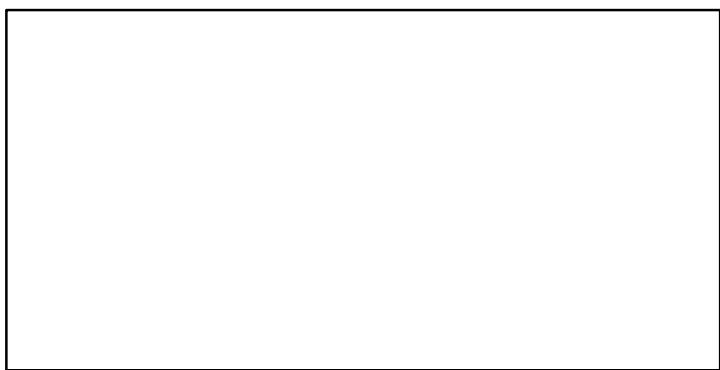
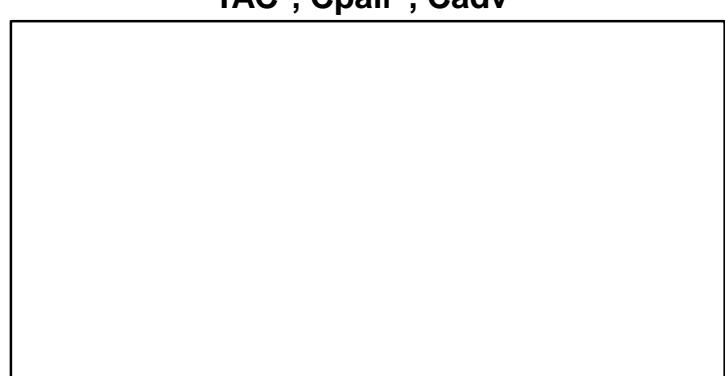
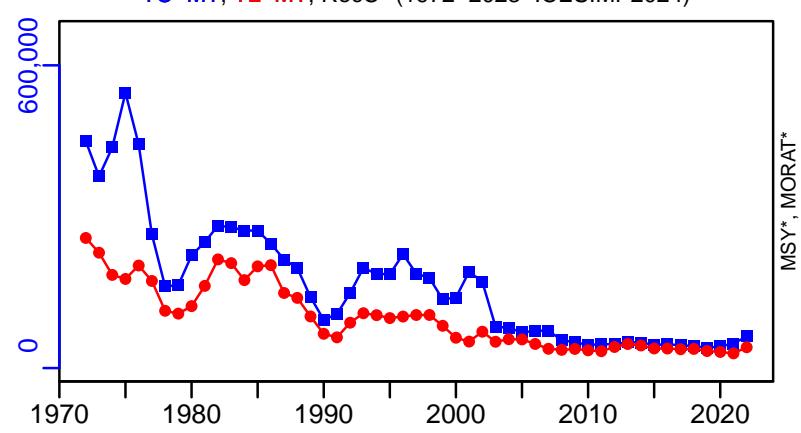


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	- - Lim BRP	* No Data

Haddock ICES 3a–4–6a [HADNS–IIIa–VIa]

TC–MT, TL–MT, RecC\* (1972–2023–ICESIMP2024)

TAC\*, Cpair\*, Cadv\*

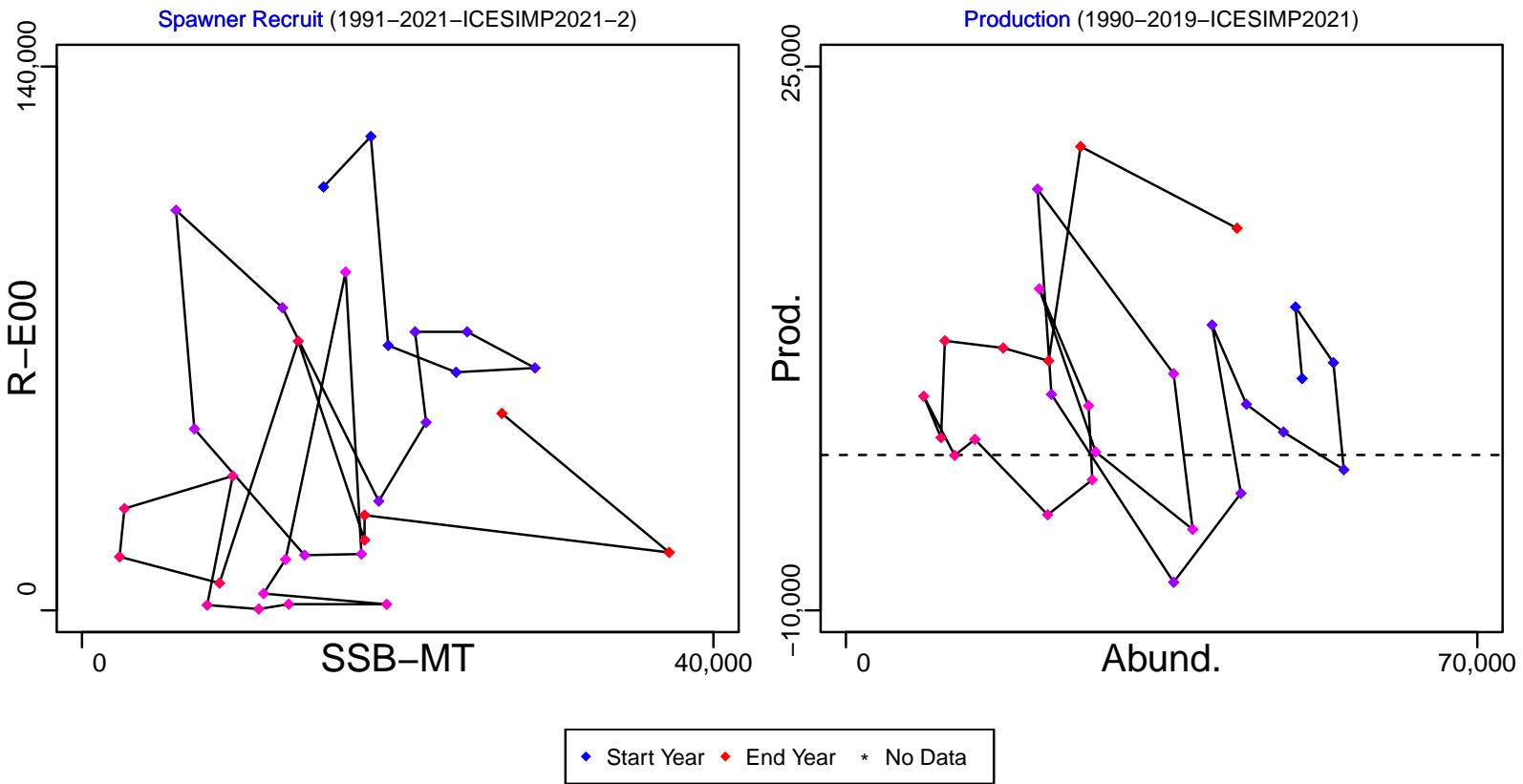


## Haddock Rockall Bank [HADROCK]

Metadata	
<b>Scientific Name</b>	Melanogrammus aeglefinus
<b>Current Assess ID</b>	WGCSE-HADROCK-1991-2021-ICESIMP2024
<b>Area</b>	Rockall Bank
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on Celtic Seas Ecosystems
<b>Asmts in RAM</b>	2013, 2014, 2015, 2016, 2017, 2019, 2020, 2021, 2021, 2012

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2021	0.168
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	Fmgt-1/yr	2021	0.168
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-MT	2012	9000
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2021	2470
<b>Flim</b>	Flim-1/yr	2021	1.06
<b>ERlim</b>	-	-	-

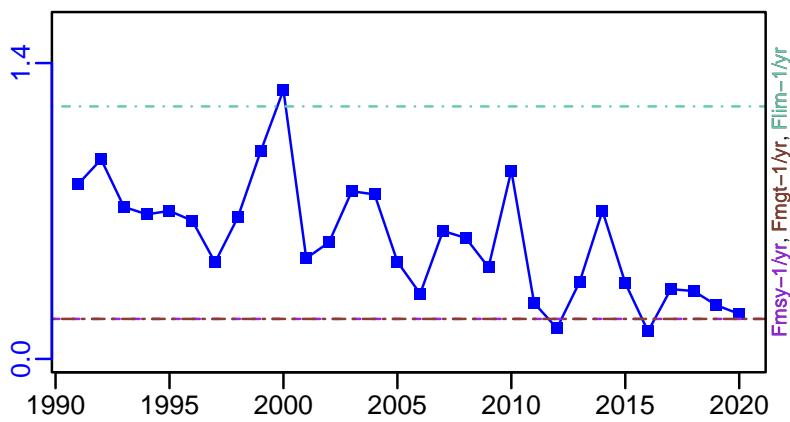
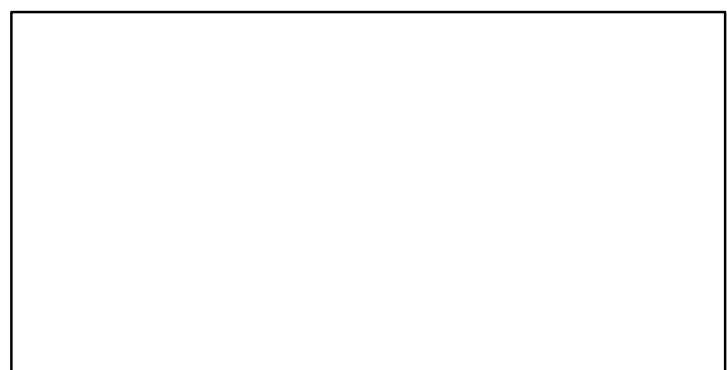
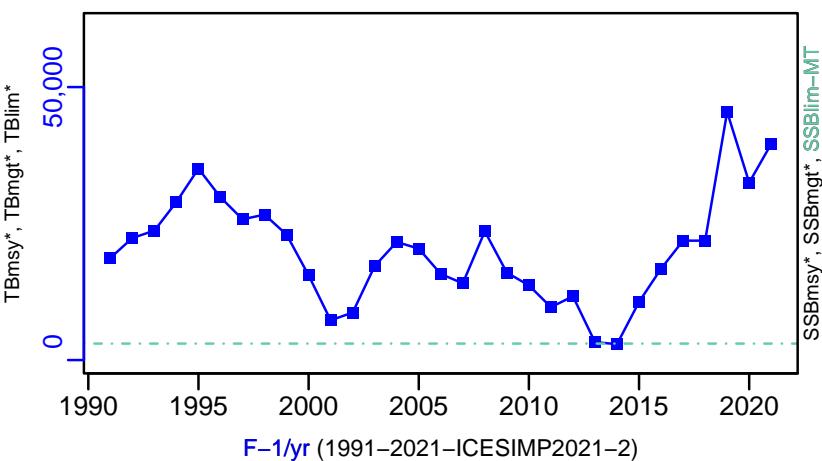
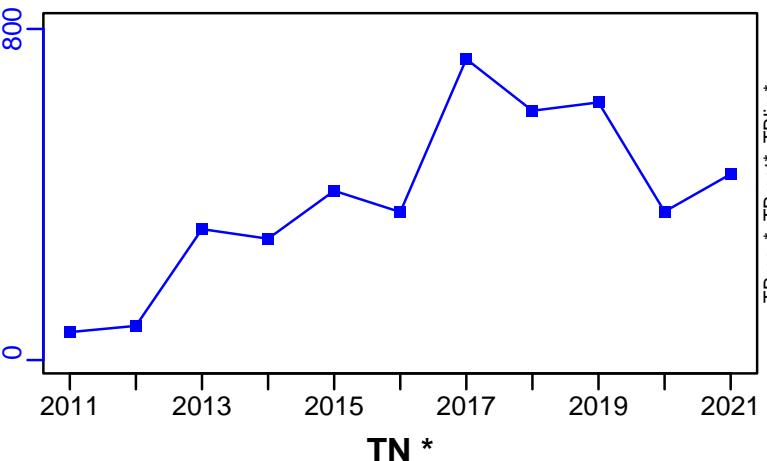
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-index	2021	446	-	-
<b>SSB</b>	SSB-MT	2021	32,400	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2021	50,700	-	1
<b>F</b>	F-1/yr	2021	0.189	-	-
<b>ER</b>	ER-calc-ratio	2019	0.072	-	-
<b>TC</b>	TC-MT	2021	5640		
<b>TL</b>	TL-MT	2021	5510		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2021	1.125		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2021	1.125		
<b>ER/ERmgt</b>	-	-	-		

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

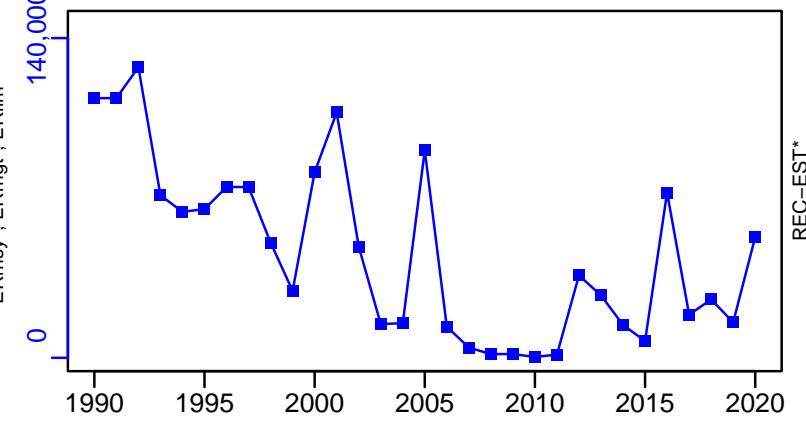
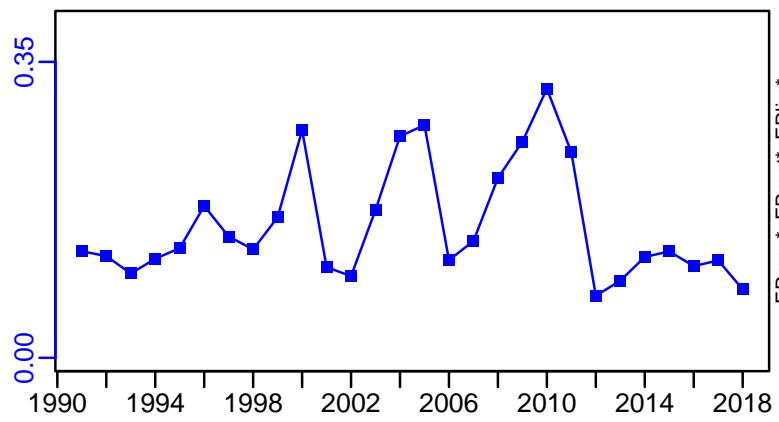
### Haddock Rockall Bank [HADROCK]

TB-index (1991–2021–ICESIMP2024)

SSB-MT (1991–2021–ICESIMP2021–2)



ER-calc-ratio (1990–2019–ICESIMP2021)

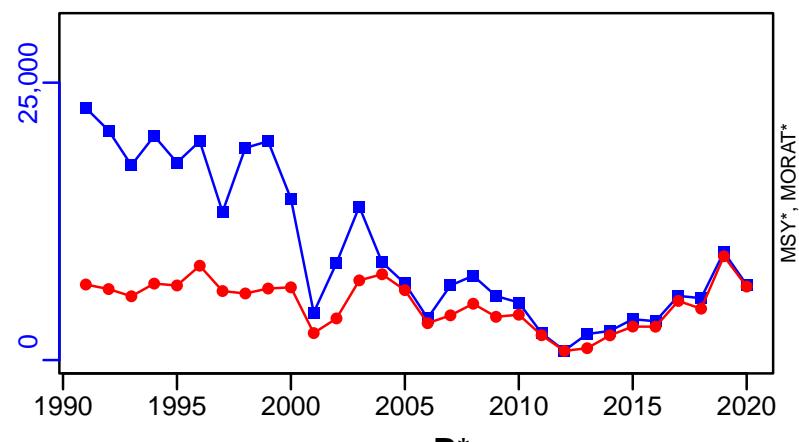


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	--- Lim BRP	* No Data

### Haddock Rockall Bank [HADROCK]

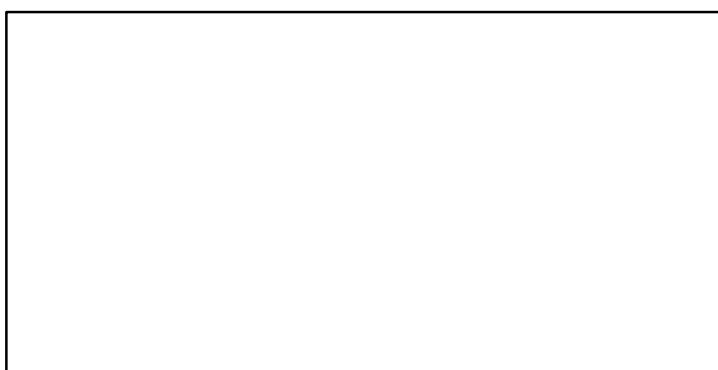
TC-MT, TL-MT, RecC\* (1991–2021–ICESIMP2021–2)

TAC\*, Cpair\*, Cadv\*

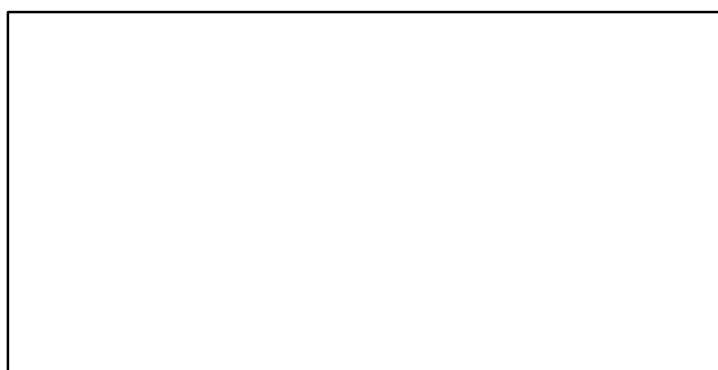


**survB\***

MSY\*, MORAT\*

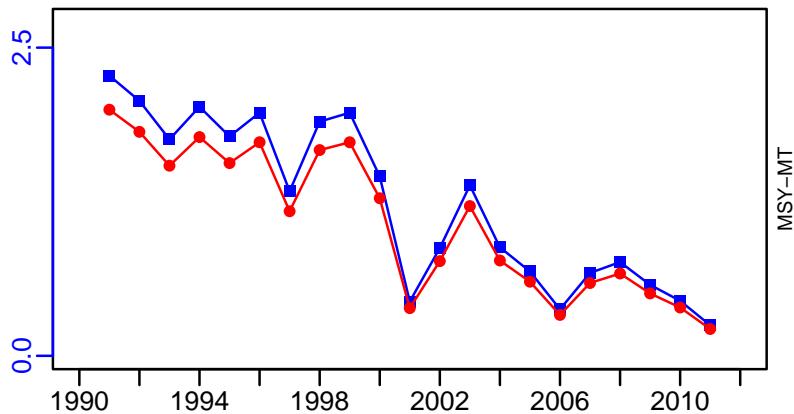
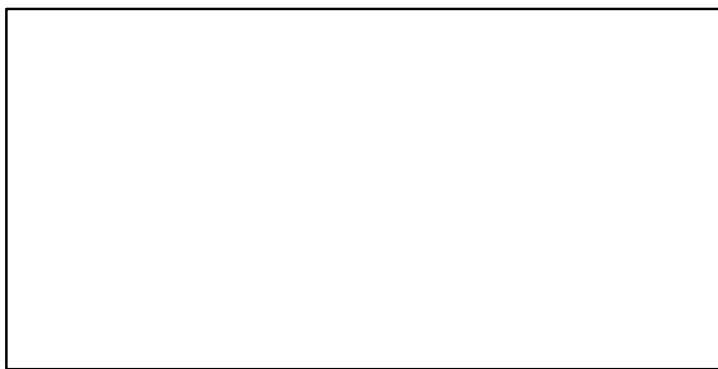


**CPUE\***



**EFFORT\***

TL-MT/MSY-MT, CdiveMEANC-ratio, (1990–2012–CHING)



MSY-MT

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

## Haddock ICES 7b-k [HADVIIb-k]

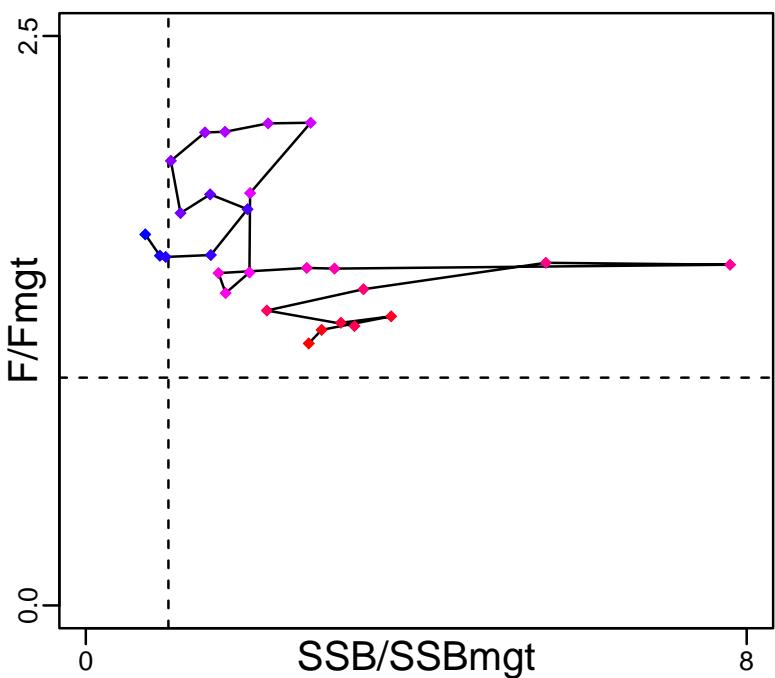
Metadata	
<b>Scientific Name</b>	Melanogrammus aeglefinus
<b>Current Assess ID</b>	WGCSE-HADVIIb-k-1993-2023-ICESIMP2024
<b>Area</b>	ICES 7b-k
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on Celtic Seas Ecosystems
<b>Asmts in RAM</b>	2013, 2014, 2015, 2016, 2017, 2019, 2020, 2021, 2023, 2012

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2023	0.353
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2020	12,822
<b>Fmgt</b>	Fmgt-1/yr	2023	0.353
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2023	9227
<b>Flim</b>	Flim-1/yr	2023	1.4
<b>ERlim</b>	-	-	-

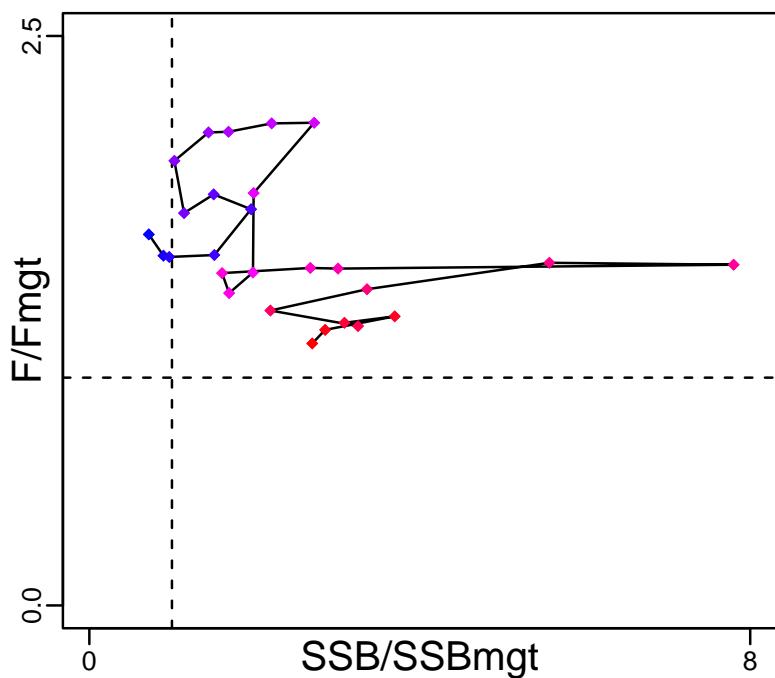
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2019	74,659	-	-	
<b>SSB</b>	SSB-MT	2023	42,660	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2023	224,539	-	0	
<b>F</b>	F-1/yr	2023	0.417	-	3 to 5	
<b>ER</b>	ER-calc-ratio	2019	0.168	-	-	
<b>TC</b>	TC-MT	2023	11,668			
<b>TL</b>	TL-MT	2023	8895			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2023	1.181			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2020	5.163			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2023	1.181			
<b>ER/ERmgt</b>	-	-	-			

Haddock ICES 7b–k [HADVIIb–k]

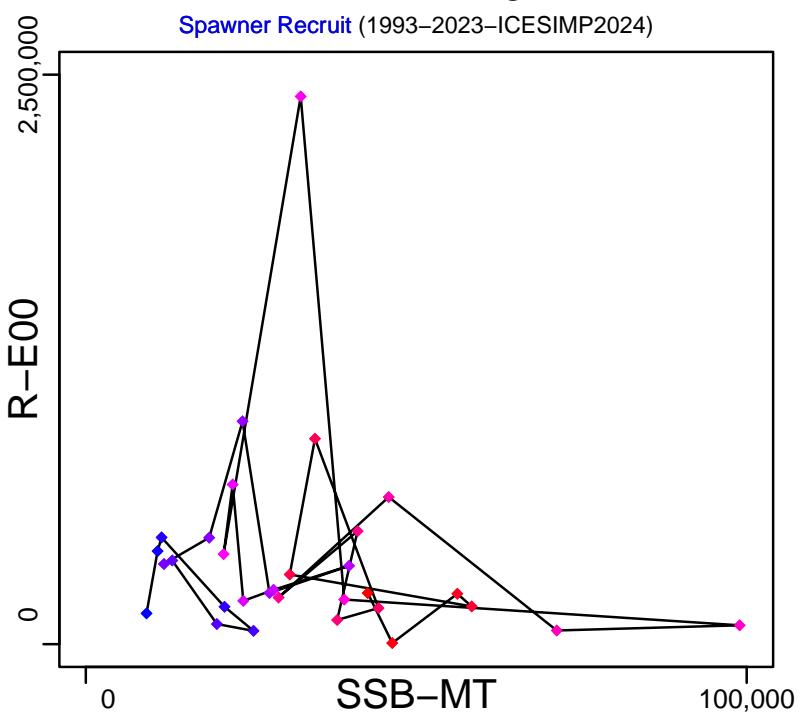
Kobe MSYpref (1993–2020–ICESIMP2021–2)



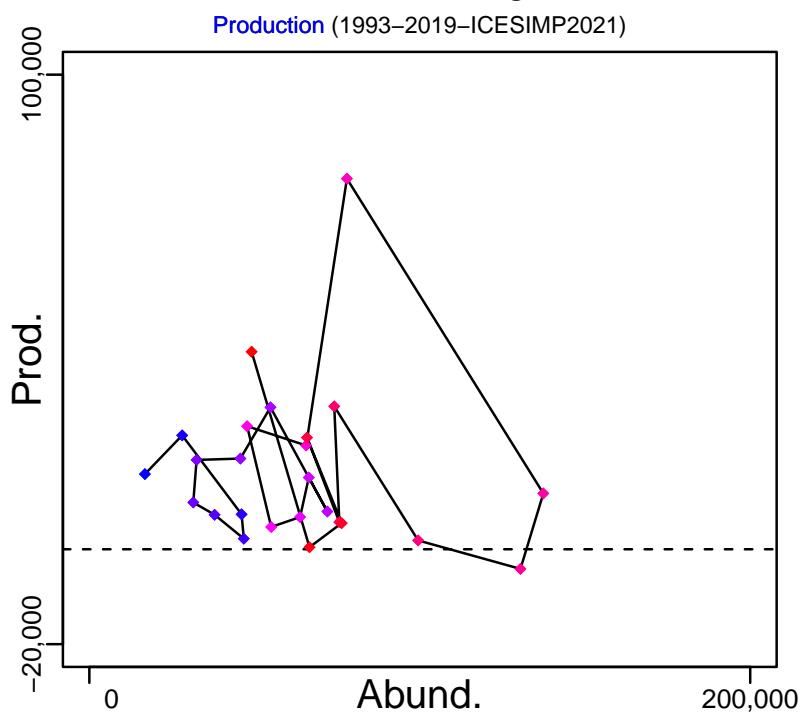
Kobe MGTpref (1993–2020–ICESIMP2021–2)



Spawner Recruit (1993–2023–ICESIMP2024)



Production (1993–2019–ICESIMP2021)

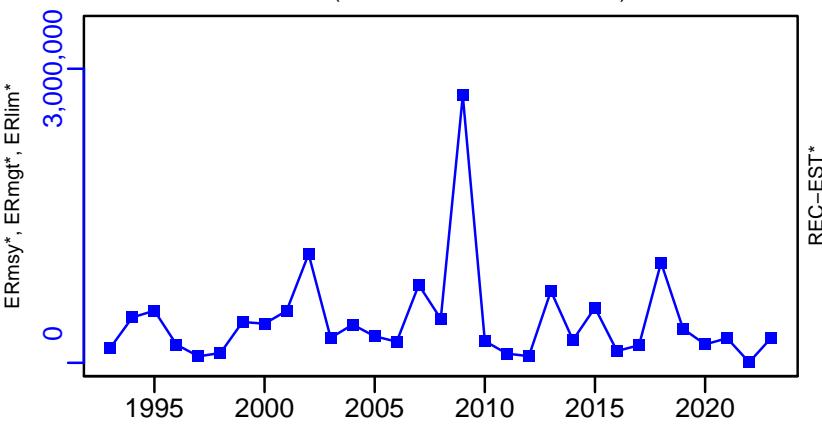
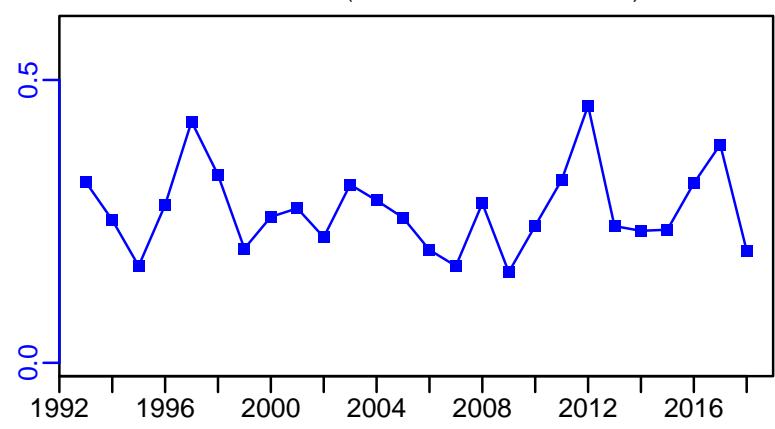
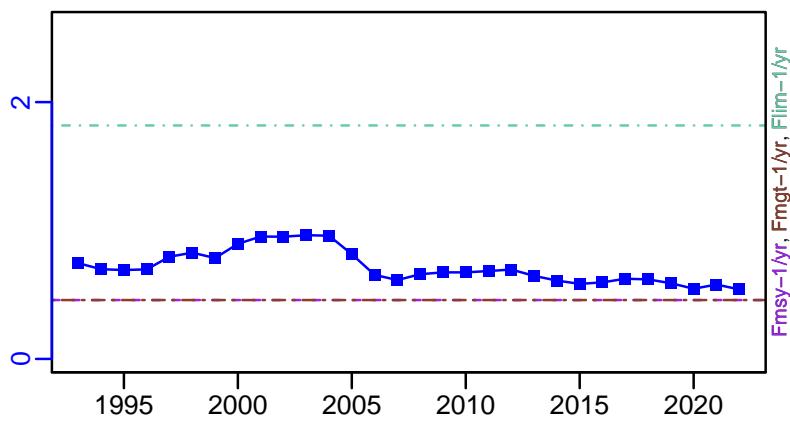
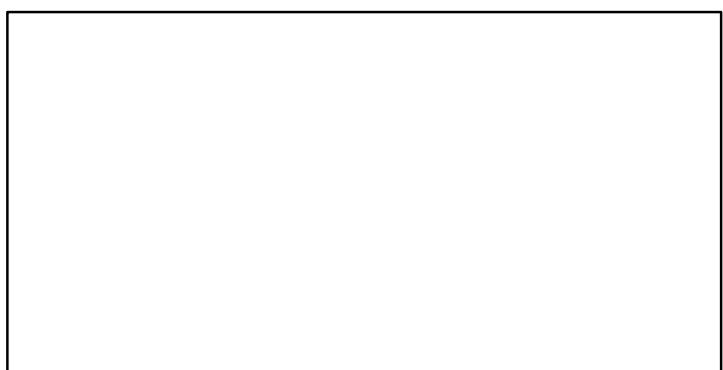
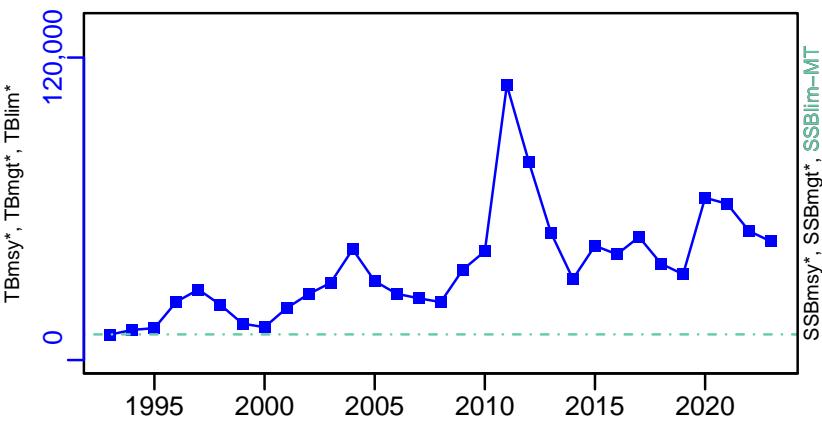
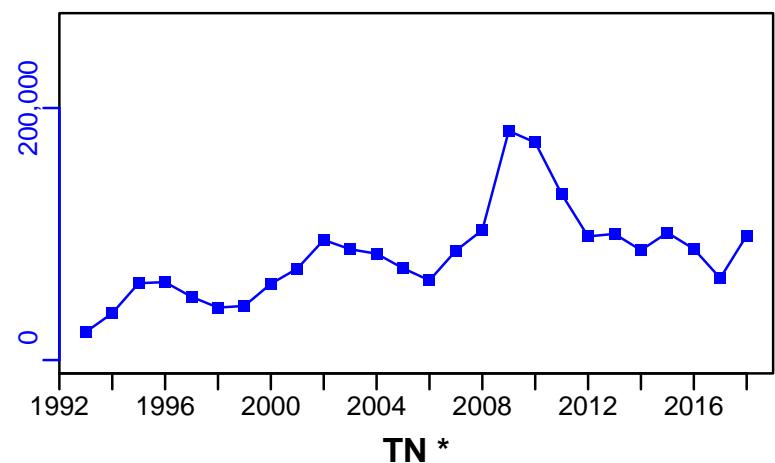


◆ Start Year ◆ End Year \* No Data

### Haddock ICES 7b–k [HADVIIb–k]

TB-MT (1993–2019–ICESIMP2021)

SSB-MT (1993–2023–ICESIMP2024)

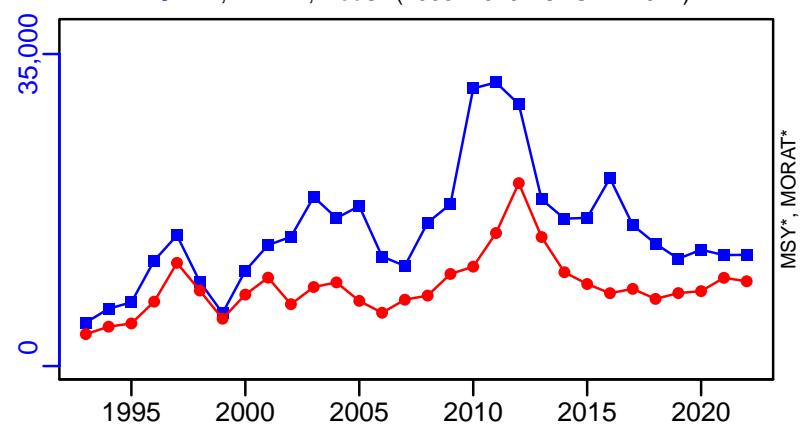


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	- - Lim BRP	* No Data

Haddock ICES 7b–k [HADVIIb–k]

TC–MT, TL–MT, RecC\* (1993–2023–ICESIMP2024)

TAC\*, Cpair\*, Cadv\*



survB\*

CPUE\*

EFFORT\*

CdivMSY\*

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

## Hake Malta Island and South of Sicily (GSA 15, 16) [HAKEMEDGSA15-16]

Metadata	
<b>Scientific Name</b>	Merluccius merluccius
<b>Current Assess ID</b>	STECF-HAKEMEDGSA15-16-2005-2009-OSIO
<b>Area</b>	Malta Island and South of Sicily (GSA 15, 16)
<b>Management Authority</b>	General Fisheries Council for the Mediterranean, DG MARE, and national states
<b>Assessor</b>	Scientific, Technical and Economic Committee for Fisheries
<b>Asmts in RAM</b>	2009

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>	Fmgt-1/yr	2009	0.15
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<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>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	F-1/yr	2009	1.12	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2009	1590		
<b>TL</b>	-	-	-		
<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>	F-1/yr/Fmgt-1/yr	2009	7.467		
<b>ER/ERmgt</b>	-	-	-		

**Kobe MSY\***

**Kobe MGT\***

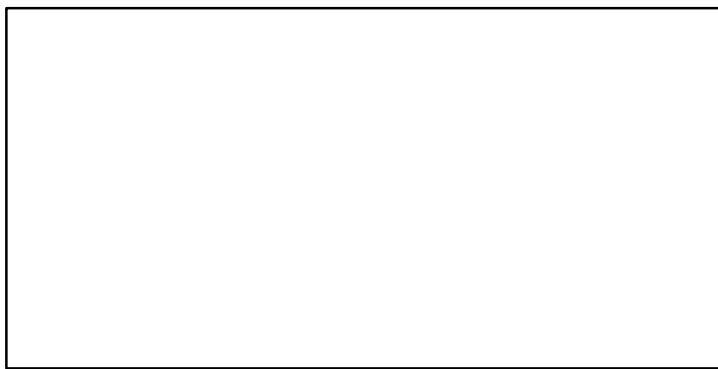
**Spawner Recruit\***

**Production\***

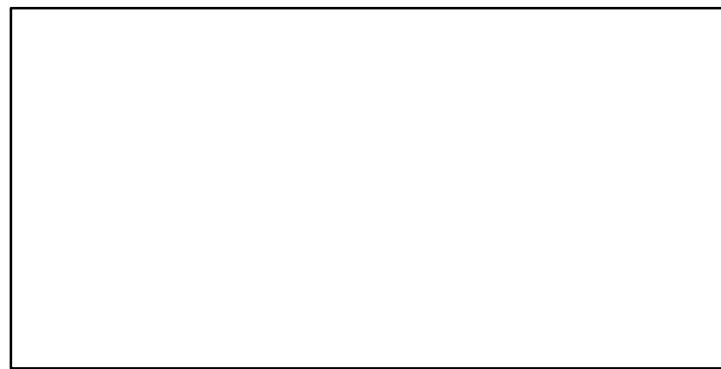
◆ Start Year ♦ End Year \* No Data

Hake Malta Island and South of Sicily (GSA 15, 16) [HAKEMEDGSA15–16]

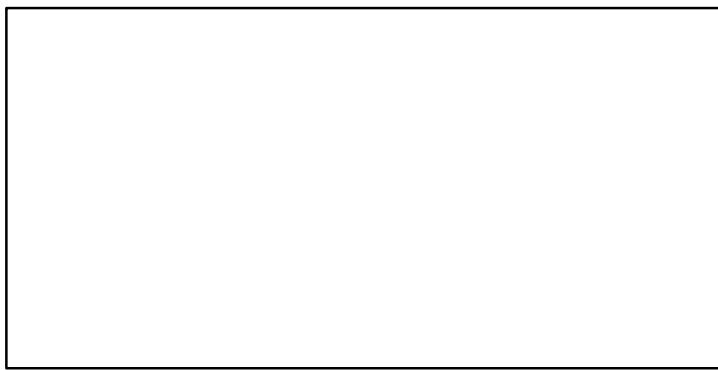
**TB\***



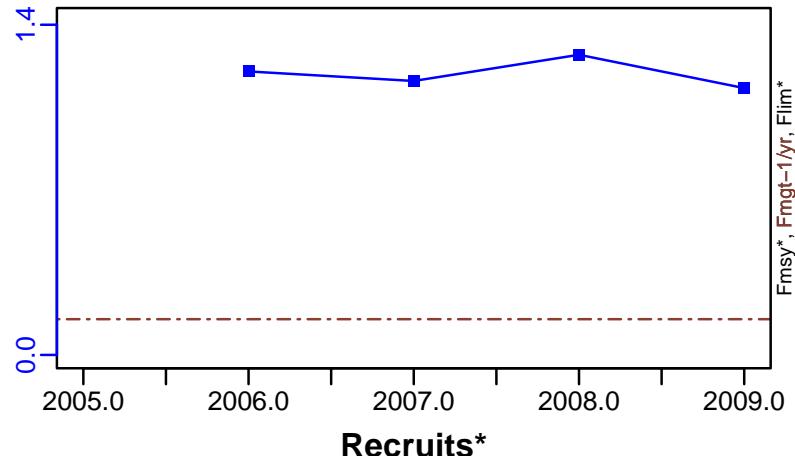
**SSB\***



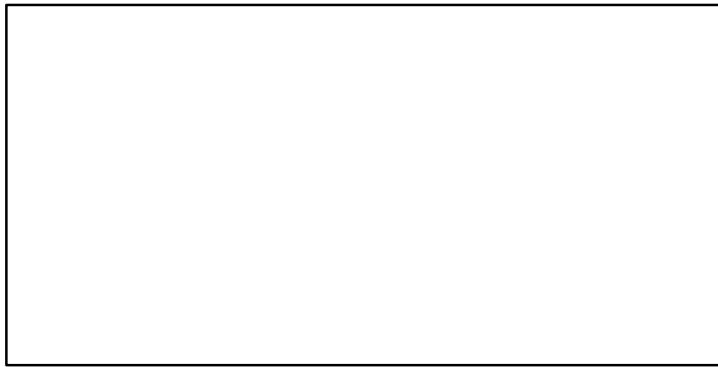
**TN \***



**F-1/yr (2005–2009–OSIO)**



**ER\***



**Recruits\***

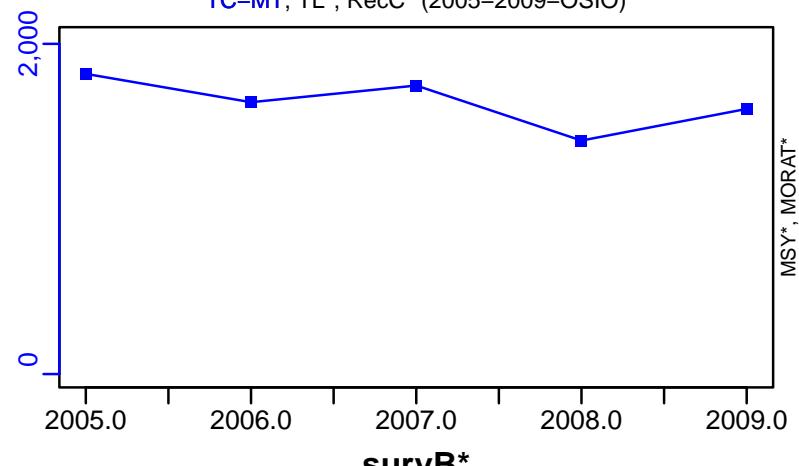


- |   |  |   |
|---|--|---|
| <span style="color: blue;">■</span> Listed time series<br><span style="color: purple;">—</span> MSY-based BRP | <span style="color: brown;">- - -</span> Target BRP<br><span style="color: cyan;">- - -</span> Lim BRP | <span style="color: gray;">—</span> Rec-Est<br><span style="color: black;">*</span> No Data |
|---|--|---|

Hake Malta Island and South of Sicily (GSA 15, 16) [HAKEMEDGSA15-16]

TC-MT, TL\*, RecC\* (2005–2009–OSIO)

TAC\*, Cpair\*, Cadv\*



MSY\*, MORAT\*

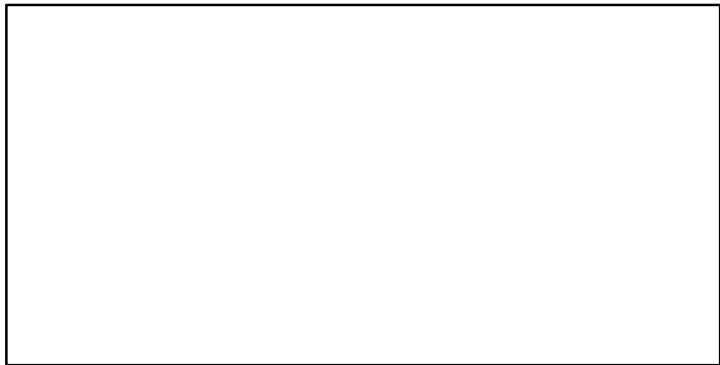
survB\*



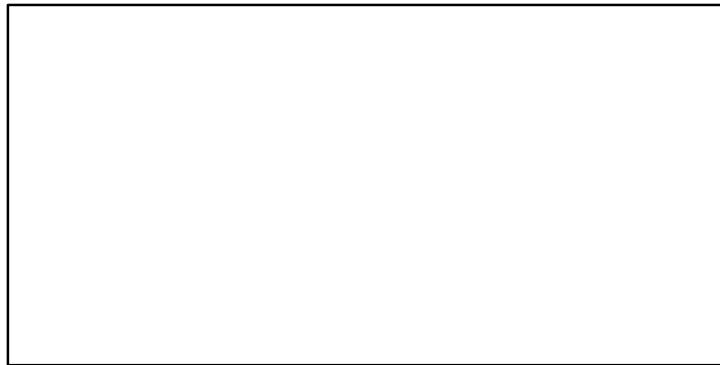
CPUE\*



EFFORT\*



CdivMSY\*



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

## Hake Geographical Sub-Areas 1-7 [HAKEMEDGSA1-7]

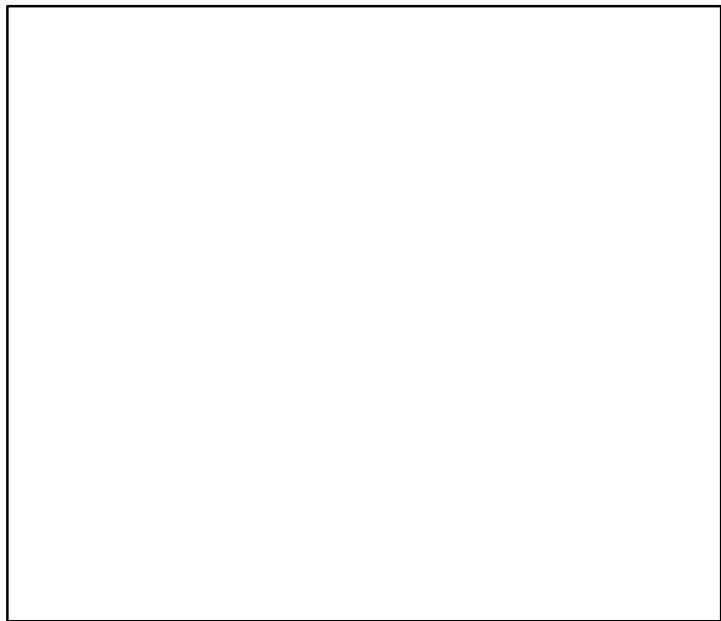
Metadata	
<b>Scientific Name</b>	Merluccius merluccius
<b>Current Assess ID</b>	STECF-HAKEMEDGSA1-7-2007-2019-MEDIMP2021-2
<b>Area</b>	Geographical Sub-Areas 1-7
<b>Management Authority</b>	General Fisheries Council for the Mediterranean, DG MARE, and national states
<b>Assessor</b>	Scientific, Technical and Economic Committee for Fisheries
<b>Asmts in RAM</b>	2014, 2019

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>	Fmgt-1/yr	2019	0.388
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2014	5186
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

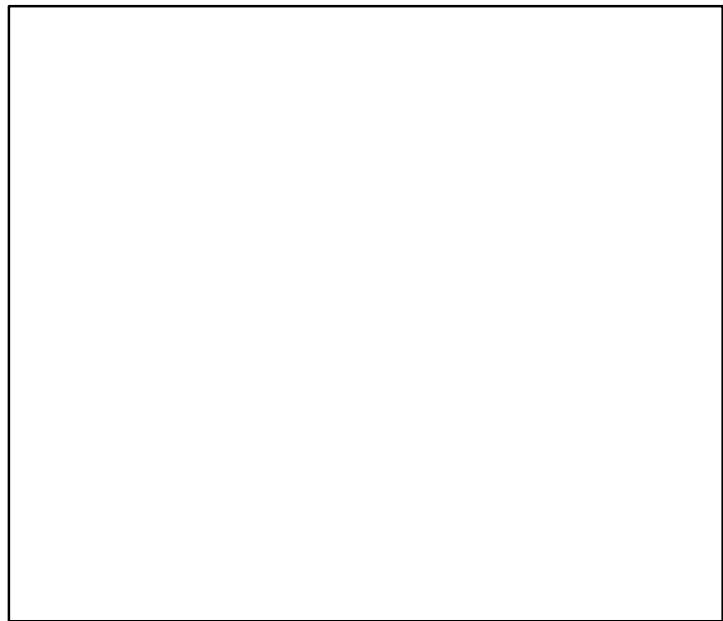
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	-	-	-	-	-
<b>SSB</b>	SSB-MT	2019	2076	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2019	42,849,214	-	-
<b>F</b>	F-1/yr	2019	1.585	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2019	3148		
<b>TL</b>	-	-	-		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2019	4.085		
<b>ER/ERmgt</b>	-	-	-		

Hake Geographical Sub-Areas 1–7 [HAKEMEDGSA1–7]

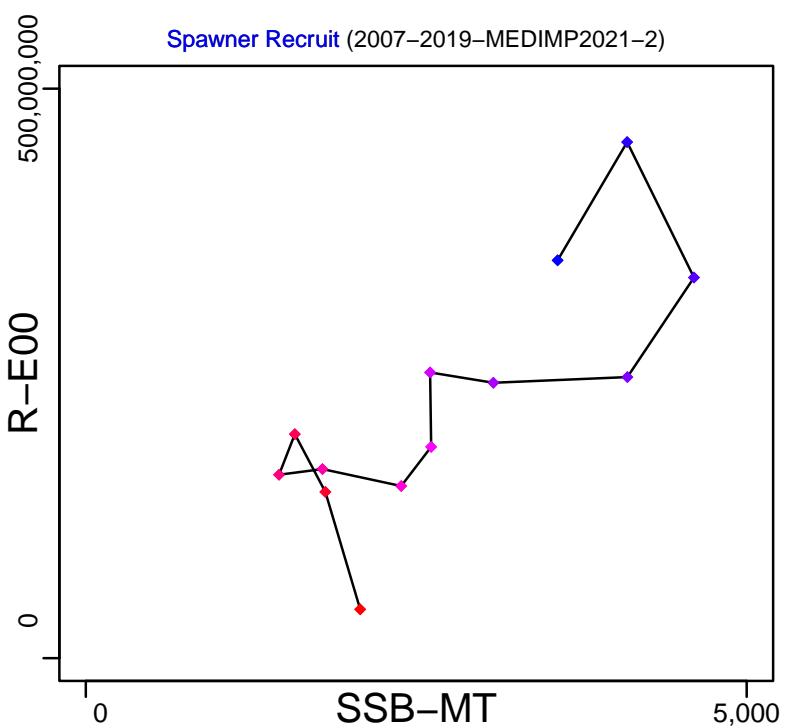
Kobe MSY\*



Kobe MGT\*



**Spawner Recruit** (2007–2019–MEDIMP2021–2)



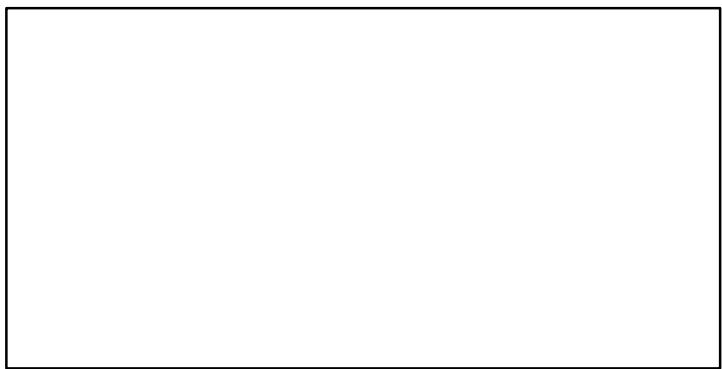
## Production\*



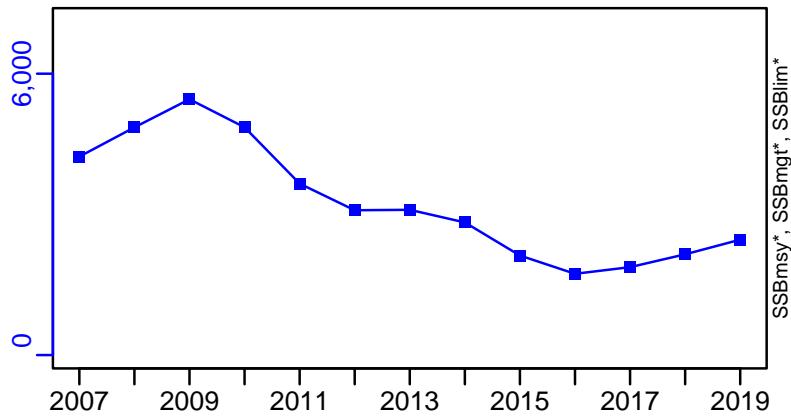
- ◆ Start Year
- ◆ End Year
- \* No Data

Hake Geographical Sub-Areas 1–7 [HAKEMEDGSA1–7]

**TB\***



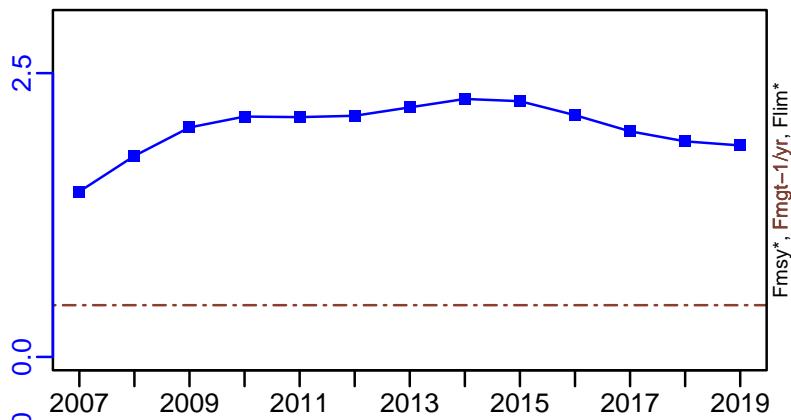
**SSB-MT** (2007–2019–MEDIMP2021–2)



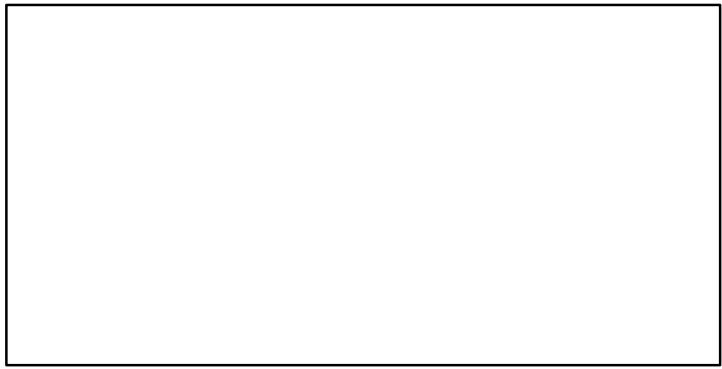
**TN \***



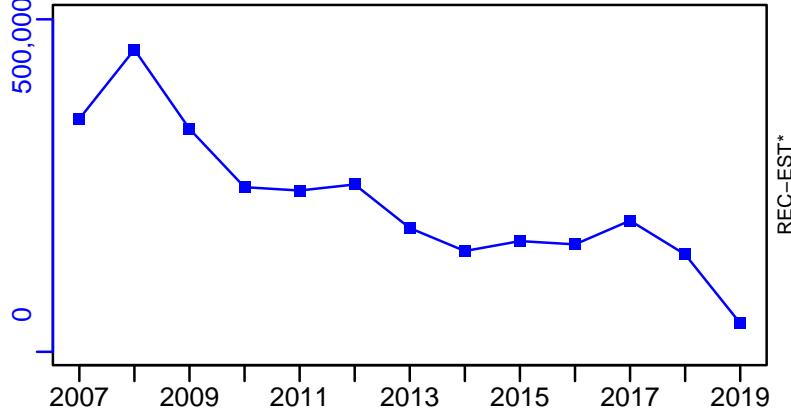
**F-1/yr** (2007–2019–MEDIMP2021–2)



**ER\***



**R-E00** (2007–2019–MEDIMP2021–2)

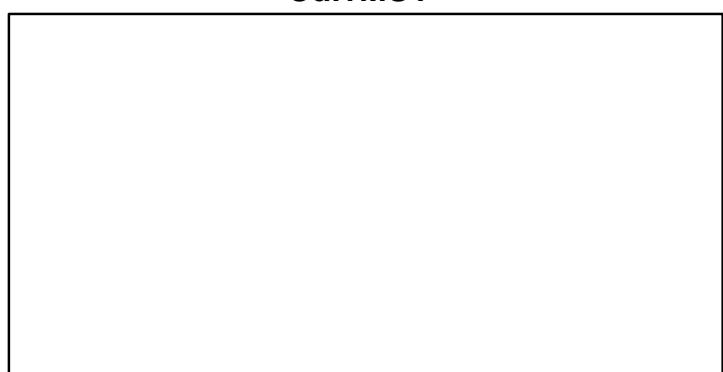
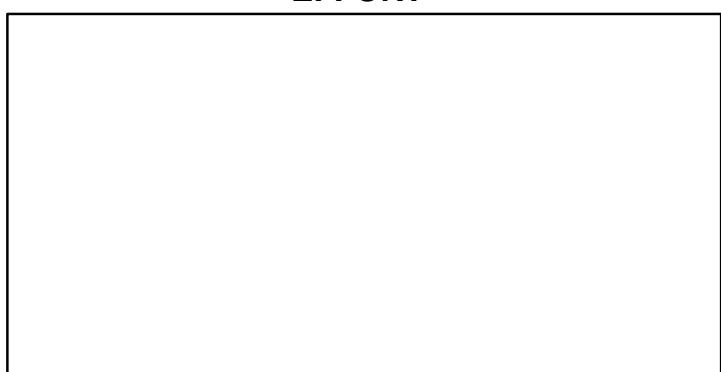
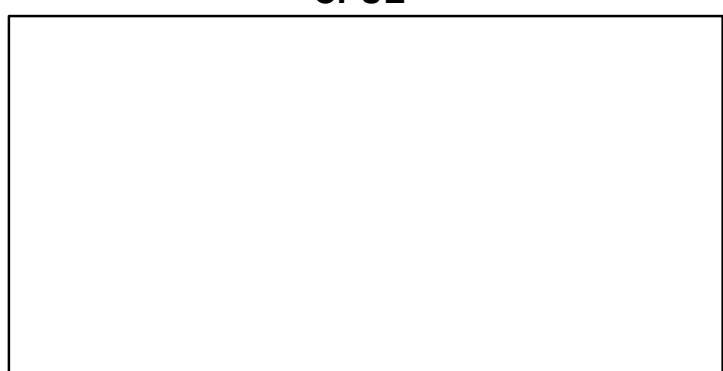
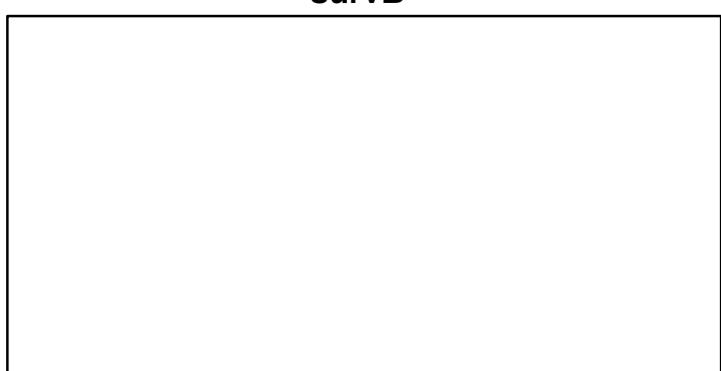
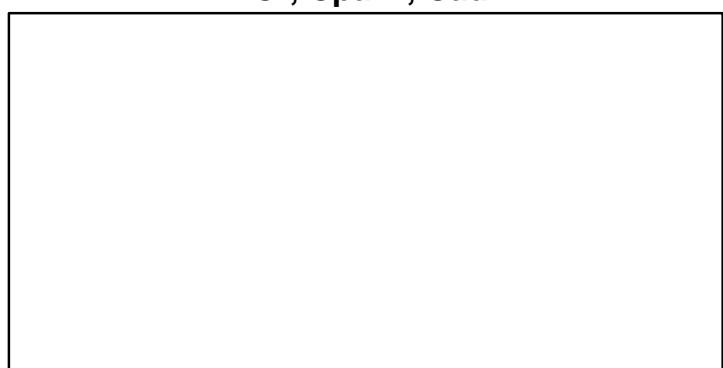
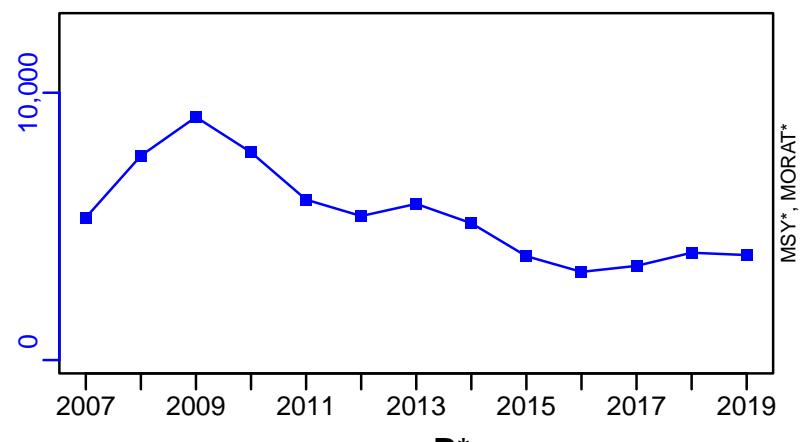


- Listed time series    - - - Target BRP    — Rec-Est
- - - MSY-based BRP    - - Lim BRP    \* No Data

Hake Geographical Sub-Areas 1–7 [HAKEMEDGSA1–7]

TC–MT, TL\*, RecC\* (2007–2019–MEDIMP2021–2)

TAC\*, Cpair\*, Cadv\*



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

## Hake Adriatic Sea (GSA 17,18) [HAKEMEDGSA17-18]

Metadata	
<b>Scientific Name</b>	Merluccius merluccius
<b>Current Assess ID</b>	STECF-HAKEMEDGSA17-18-1998-2019-MEDIMP2021-2
<b>Area</b>	Adriatic Sea (GSA 17,18)
<b>Management Authority</b>	General Fisheries Council for the Mediterranean, DG MARE, and national states
<b>Assessor</b>	Scientific, Technical and Economic Committee for Fisheries
<b>Asmts in RAM</b>	2019, 2014

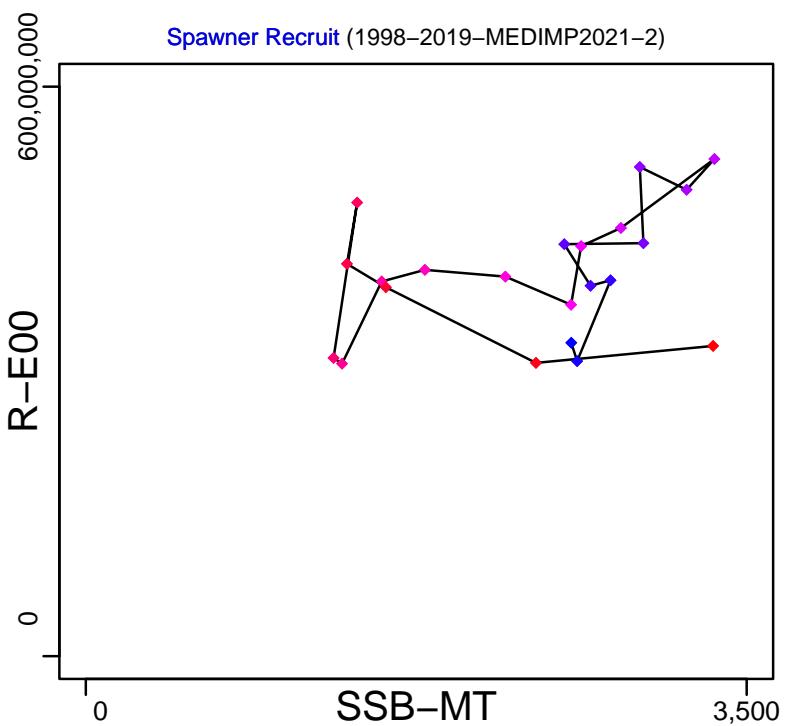
Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2019	0.179
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	Fmgt-1/yr	2019	0.179
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	-	-	-	-	-
<b>SSB</b>	SSB-MT	2019	3322	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2019	326,847,000	-	-
<b>F</b>	F-1/yr	2019	0.41	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2019	5361		
<b>TL</b>	-	-	-		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2019	2.291		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2019	2.291		
<b>ER/ERmgt</b>	-	-	-		

Kobe MSY\*

Kobe MGT\*

Spawner Recruit (1998–2019–MEDIMP2021–2)

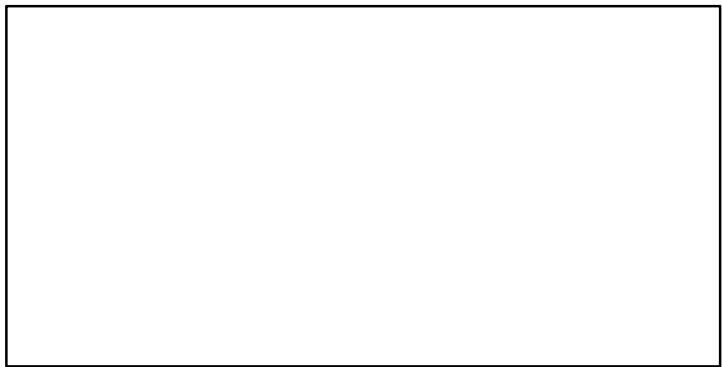


Production\*

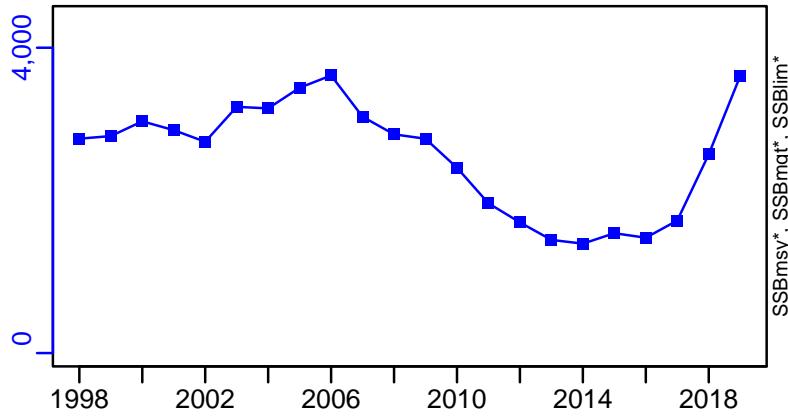
◆ Start Year   ◆ End Year   \* No Data

Hake Adriatic Sea (GSA 17,18) [HAKEMEDGSA17-18]

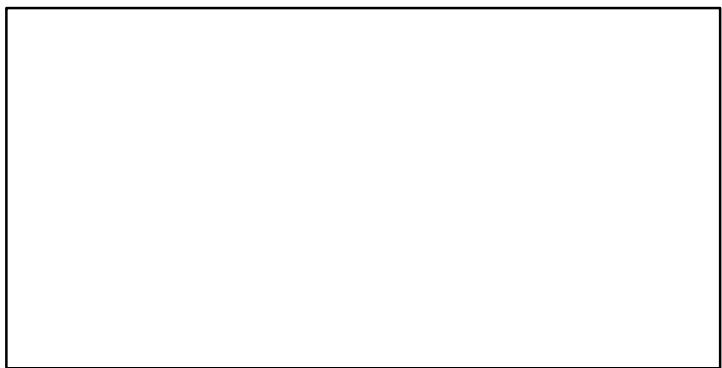
**TB\***



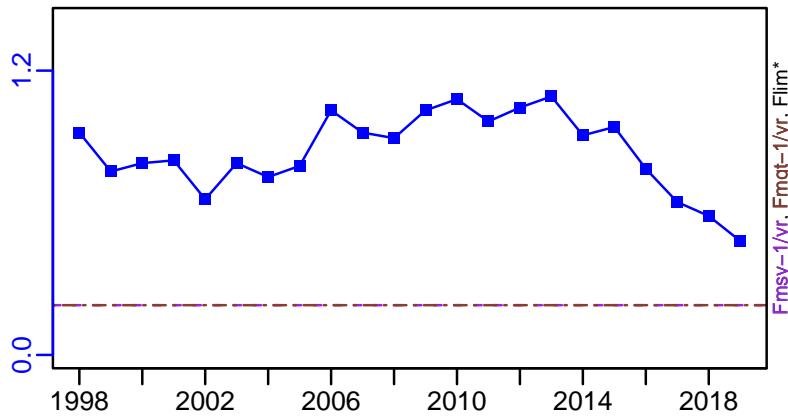
**SSB-MT (1998–2019–MEDIMP2021–2)**



**TN \***



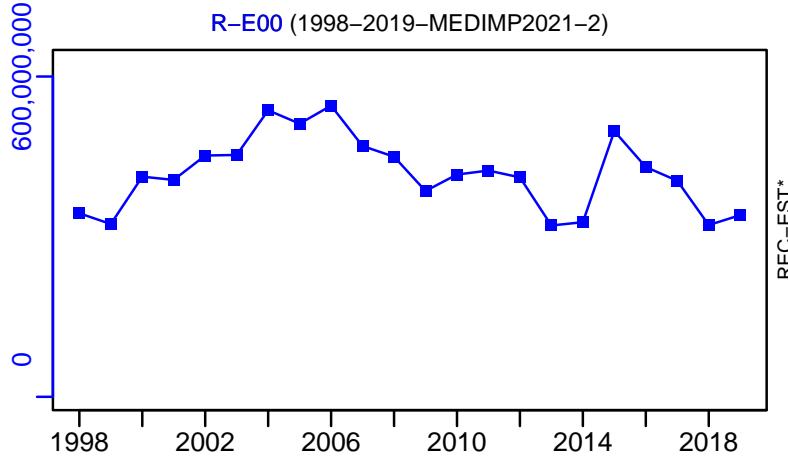
**F-1/yr (1998–2019–MEDIMP2021–2)**



**ER\***



**R-E00 (1998–2019–MEDIMP2021–2)**

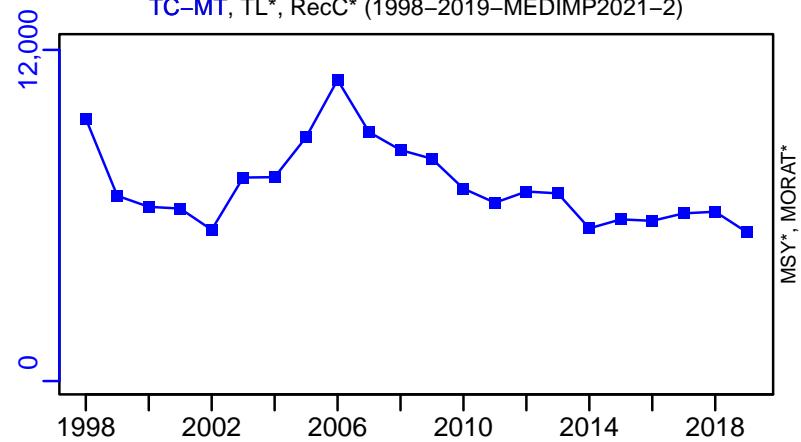


- Listed time series
- - - Target BRP
- - - MSY-based BRP
- - Lim BRP
- Rec-Est
- \* No Data

Hake Adriatic Sea (GSA 17,18) [HAKEMEDGSA17-18]

TC-MT, TL\*, RecC\* (1998–2019–MEDIMP2021–2)

TAC\*, Cpair\*, Cadv\*



survB\*

CPUE\*

EFFORT\*

CdivMSY\*

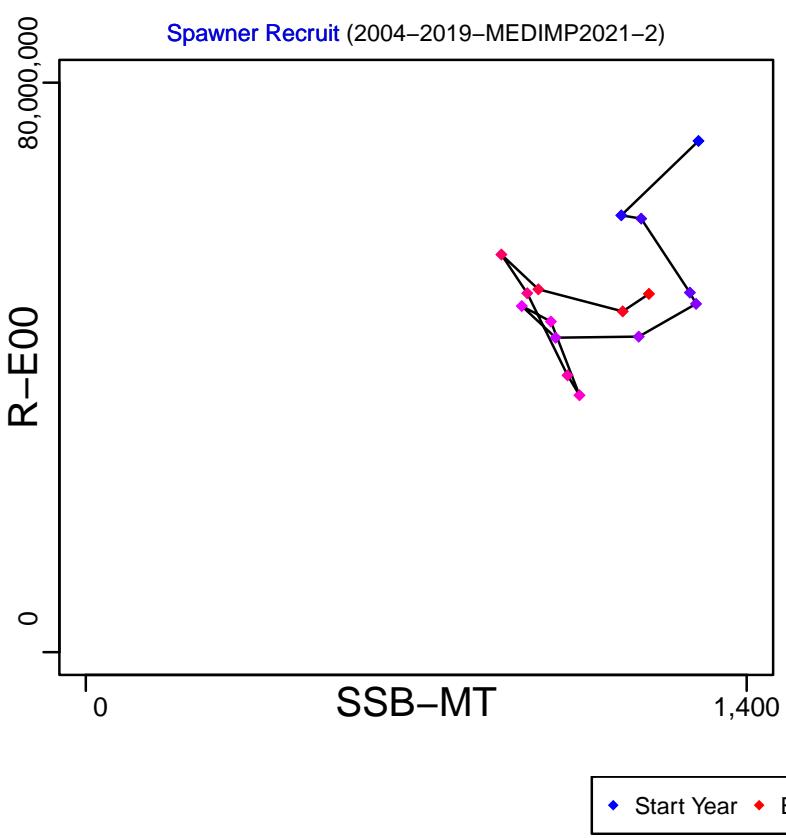
- |                          |                          |           |
|--------------------------|--------------------------|-----------|
| ■ 1st listed time series | ▲ 3rd listed time series | — MORAT   |
| ● 2nd listed time series | - - MSY                  | * No Data |

## Hake Western Ionian Sea [HAKEMEDGSA19]

Metadata	
<b>Scientific Name</b>	Merluccius merluccius
<b>Current Assess ID</b>	STECF-HAKEMEDGSA19-2004-2019-MEDIMP2021-2
<b>Area</b>	Western Ionian Sea
<b>Management Authority</b>	General Fisheries Council for the Mediterranean, DG MARE, and national states
<b>Assessor</b>	Scientific, Technical and Economic Committee for Fisheries
<b>Asmts in RAM</b>	2019, 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>	-	-	-
<b>Fmgt</b>	Fmgt-1/yr	2019	0.135
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<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>	-	-	-	-	-
<b>SSB</b>	SSB-MT	2019	1193	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2019	50,329,414	-	-
<b>F</b>	F-1/yr	2019	0.325	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2019	594		
<b>TL</b>	-	-	-		
<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>	F-1/yr/Fmgt-1/yr	2019	2.405		
<b>ER/ERmgt</b>	-	-	-		

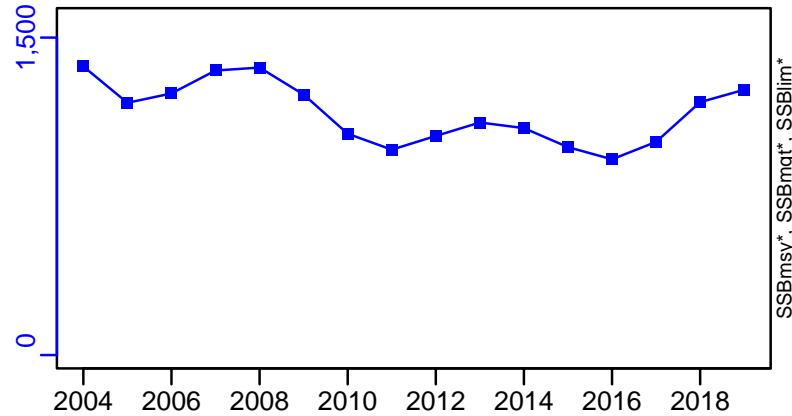
**Kobe MSY\*****Kobe MGT\***

Hake Western Ionian Sea [HAKEMEDGSA19]

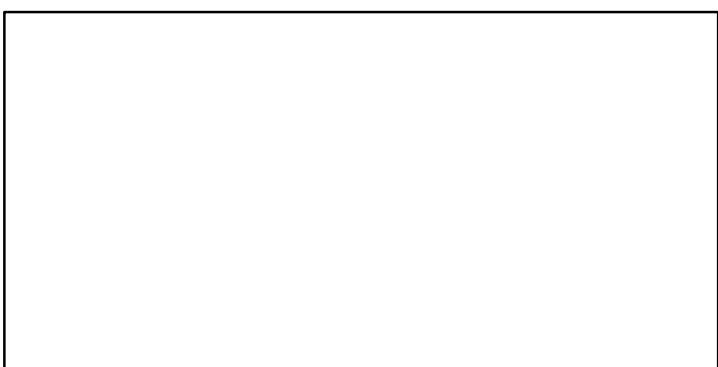
**TB\***



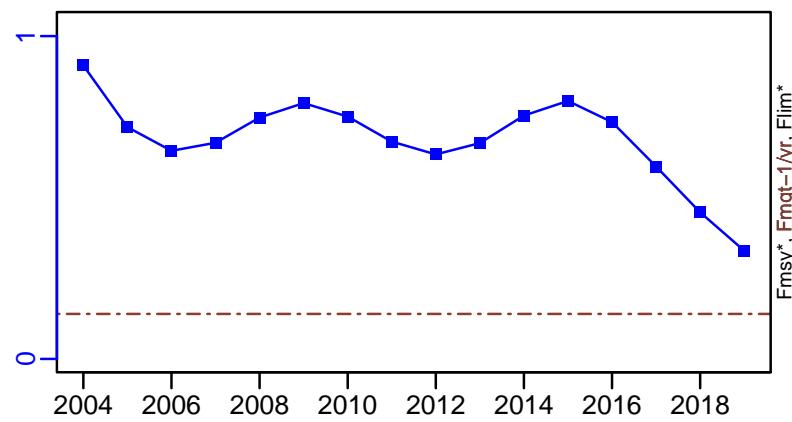
**SSB-MT** (2004–2019–MEDIMP2021–2)



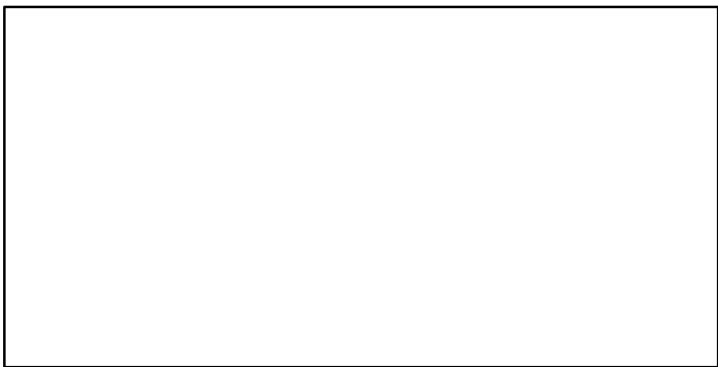
**TN \***



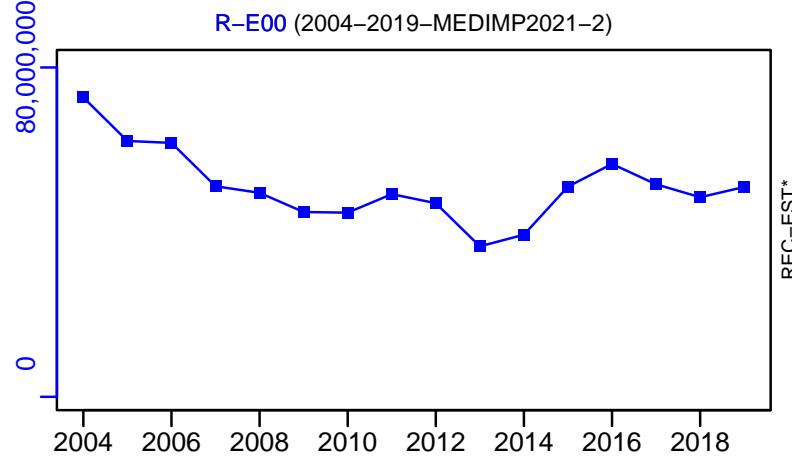
**F-1/yr** (2004–2019–MEDIMP2021–2)



**ER\***



**R-E00** (2004–2019–MEDIMP2021–2)

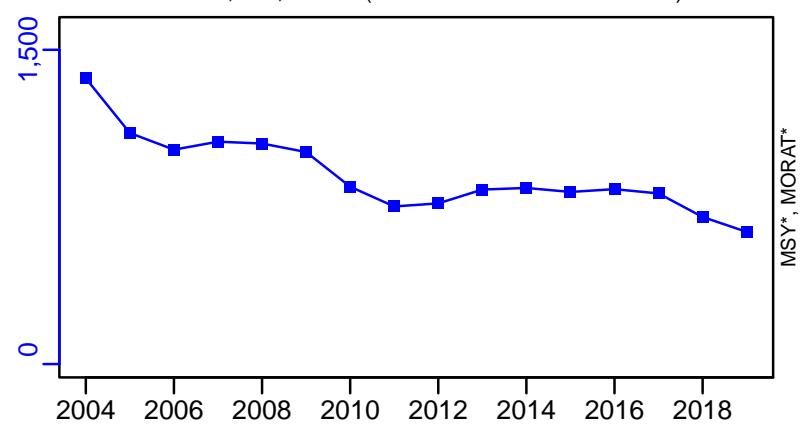


- Listed time series    - - - Target BRP    — Rec-Est
- - MSY-based BRP    - - Lim BRP    \* No Data

Hake Western Ionian Sea [HAKEMEDGSA19]

TC-MT, TL\*, RecC\* (2004–2019–MEDIMP2021–2)

TAC\*, Cpair\*, Cadv\*



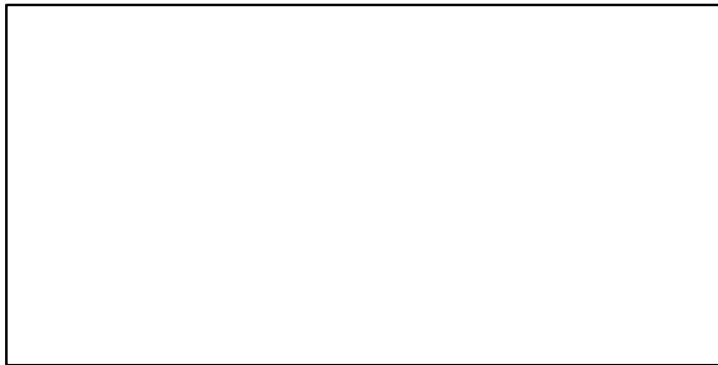
survB\*



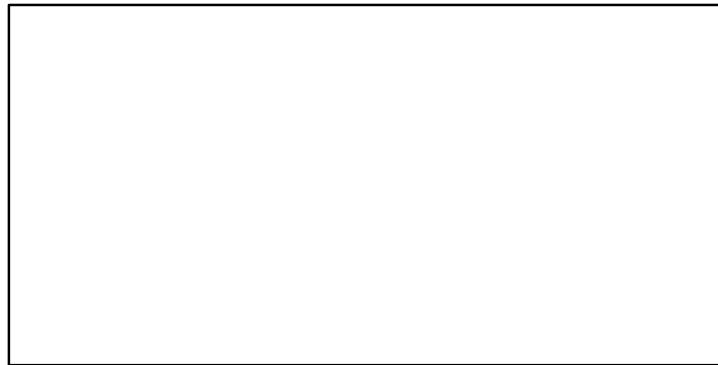
CPUE\*



EFFORT\*



CdivMSY\*



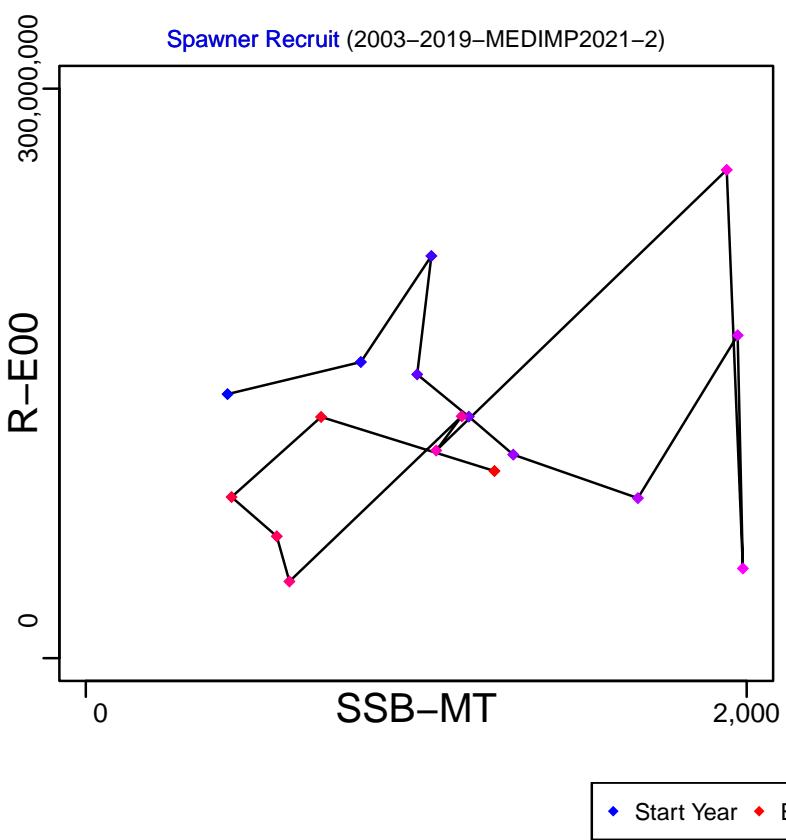
- |                          |                          |           |
|--------------------------|--------------------------|-----------|
| ■ 1st listed time series | ▲ 3rd listed time series | — MORAT   |
| ● 2nd listed time series | - - - MSY                | * No Data |

## Hake Eastern Ionian Sea [HAKEMEDGSA20]

Metadata	
<b>Scientific Name</b>	Merluccius merluccius
<b>Current Assess ID</b>	STECF-HAKEMEDGSA20-2003-2019-MEDIMP2021-2
<b>Area</b>	Eastern Ionian Sea
<b>Management Authority</b>	General Fisheries Council for the Mediterranean, DG MARE, and national states
<b>Assessor</b>	Scientific, Technical and Economic Committee for Fisheries
<b>Asmts in RAM</b>	2008, 2019

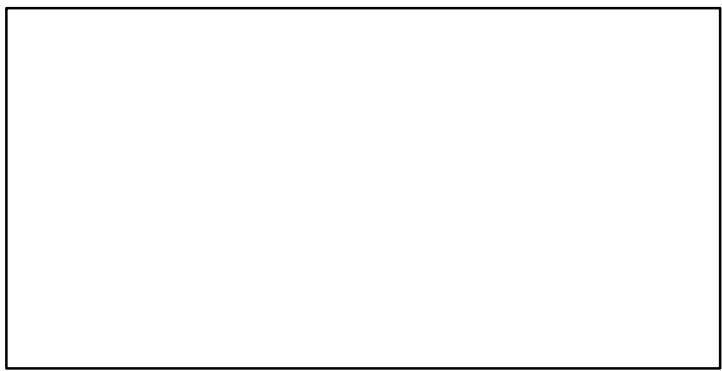
Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	Fmgt-1/yr	2019	0.358
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	-	-	-	-	-
<b>SSB</b>	SSB-MT	2019	1237	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2019	98,572,383	-	-
<b>F</b>	F-1/yr	2019	0.745	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2019	872		
<b>TL</b>	-	-	-		
<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>	F-1/yr/Fmgt-1/yr	2019	2.082		
<b>ER/ERmgt</b>	-	-	-		

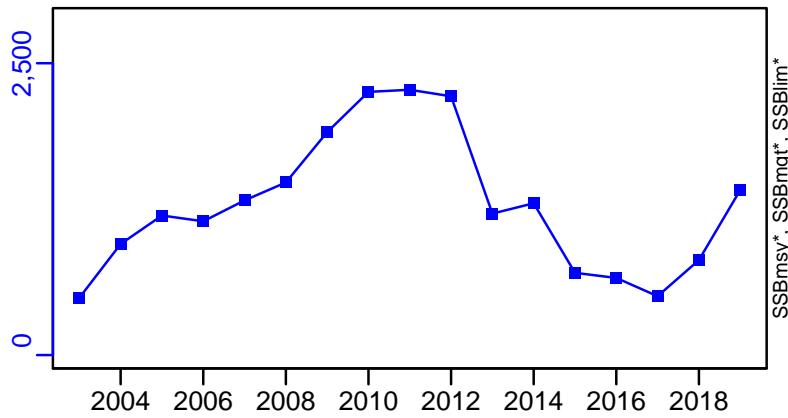
**Kobe MSY\*****Kobe MGT\***

Hake Eastern Ionian Sea [HAKEMEDGSA20]

**TB\***



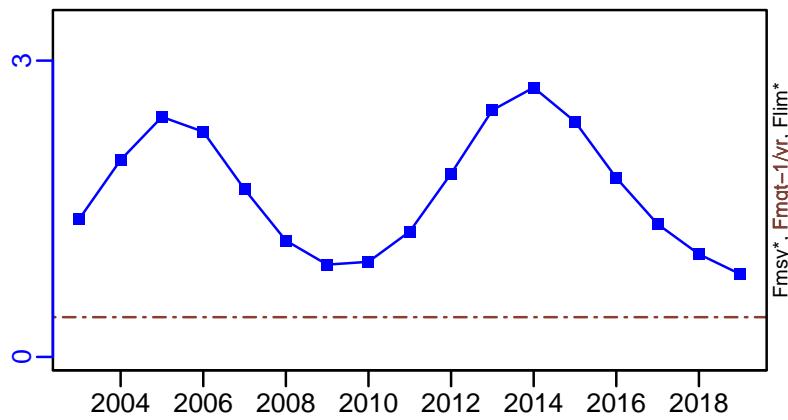
**SSB-MT** (2003–2019–MEDIMP2021–2)



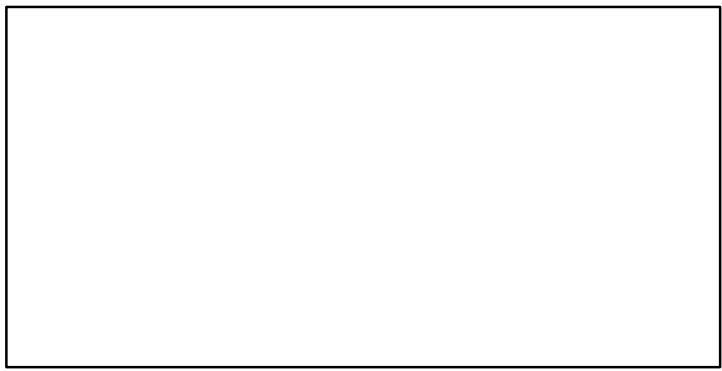
**TN \***



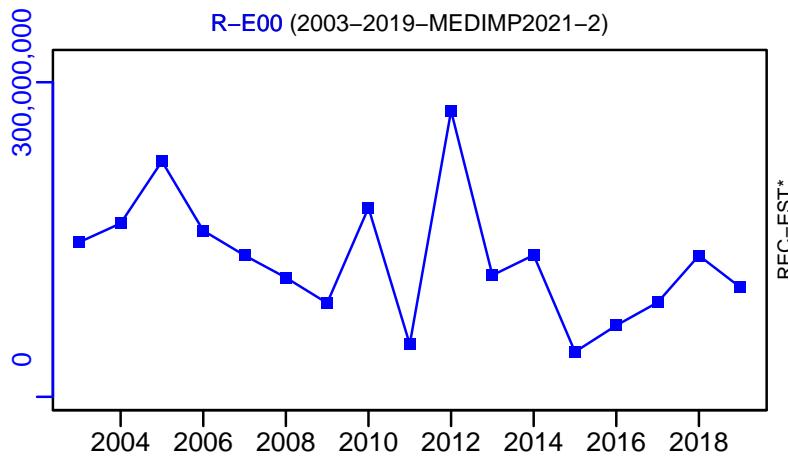
**F-1/yr** (2003–2019–MEDIMP2021–2)



**ER\***



**R-E00** (2003–2019–MEDIMP2021–2)

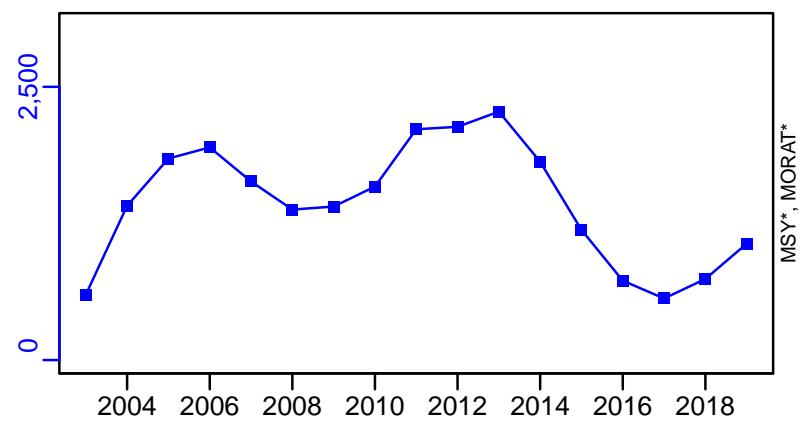


- Listed time series    - - - Target BRP    — Rec-Est
- - MSY-based BRP    - - Lim BRP    \* No Data

Hake Eastern Ionian Sea [HAKEMEDGSA20]

TC-MT, TL\*, RecC\* (2003–2019–MEDIMP2021–2)

TAC\*, Cpair\*, Cadv\*



survB\*

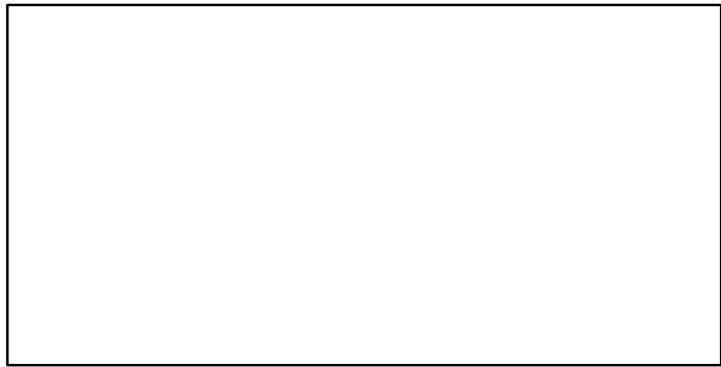
MSY\*, MORAT\*



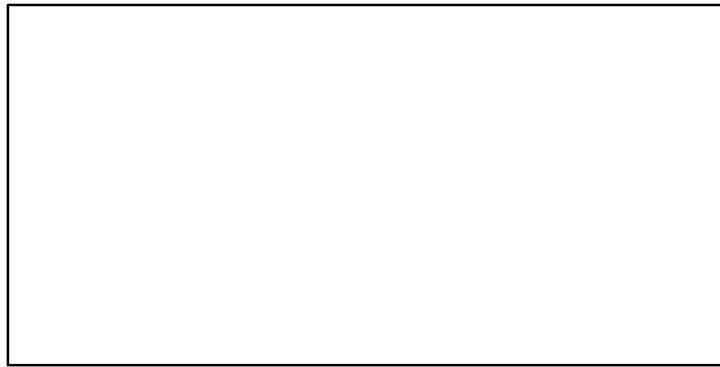
CPUE\*



EFFORT\*



CdivMSY\*



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

## Hake Aegean Sea and Crete Island (GSA 22,23) [HAKEMEDGSA22-23]

Metadata	
<b>Scientific Name</b>	Merluccius merluccius
<b>Current Assess ID</b>	STECF-HAKEMEDGSA22-23-2003-2008-OSIO
<b>Area</b>	Aegean Sea and Crete Island (GSA 22,23)
<b>Management Authority</b>	General Fisheries Council for the Mediterranean, DG MARE, and national states
<b>Assessor</b>	Scientific, Technical and Economic Committee for Fisheries
<b>Asmts in RAM</b>	2008

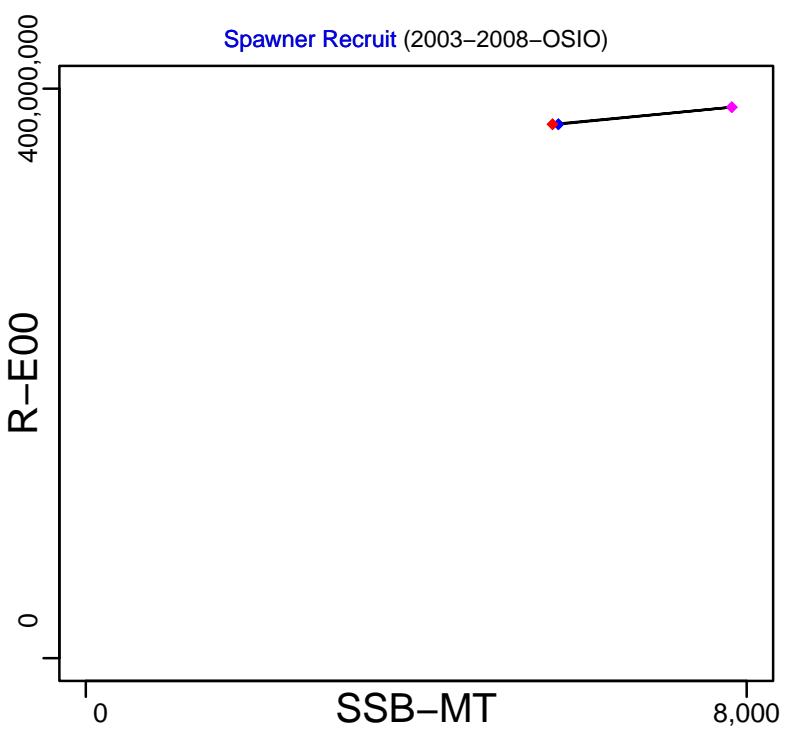
Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	Fmgt-1/yr	2008	0.24
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	-	-	-	-	-
<b>SSB</b>	SSB-MT	2008	5650	-	2+
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2008	$3.75 \times 10^8$	-	-
<b>F</b>	F-1/yr	2008	0.83	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2008	7160		
<b>TL</b>	-	-	-		
<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>	F-1/yr/Fmgt-1/yr	2008	3.458		
<b>ER/ERmgt</b>	-	-	-		

Kobe MSY\*

Kobe MGT\*

Spawner Recruit (2003–2008–OSIO)



Production\*

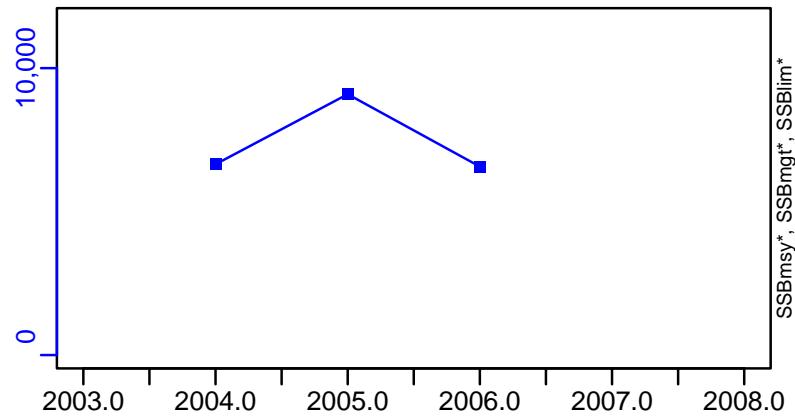
◆ Start Year   ◆ End Year   \* No Data

Hake Aegean Sea and Crete Island (GSA 22,23) [HAKEMEDGSA22–23]

**TB\***



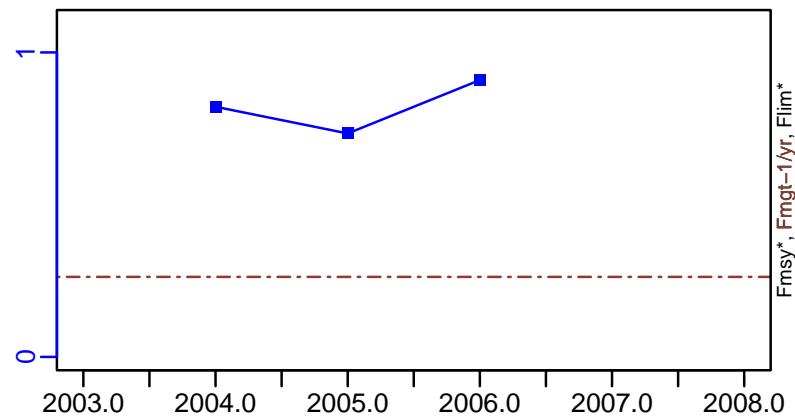
**SSB-MT (2003–2008–OSIO)**



**TN \***



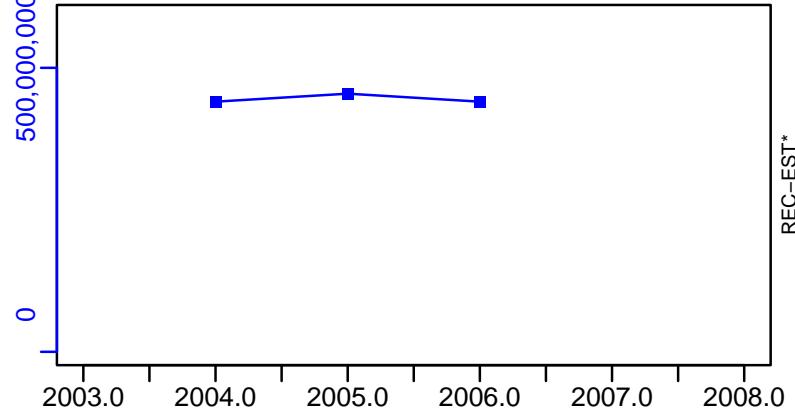
**F-1/yr (2003–2008–OSIO)**



**ER\***



**R-E00 (2003–2008–OSIO)**

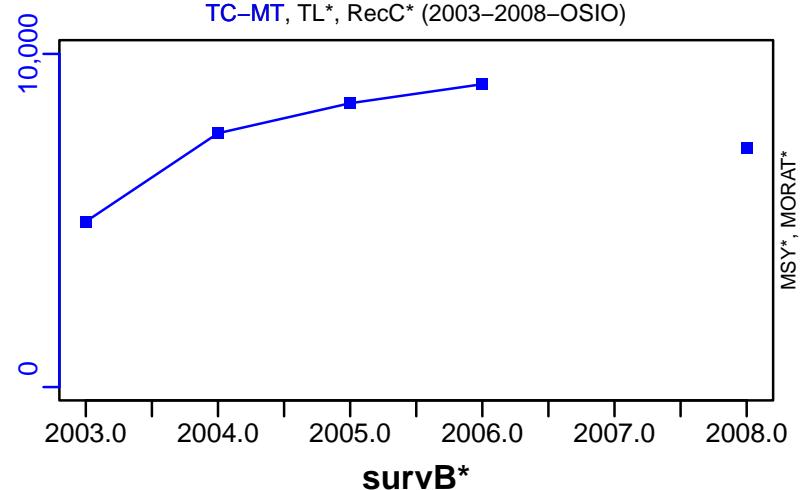


- Listed time series    - - - Target BRP    — Rec-Est
- - MSY-based BRP    - - Lim BRP    \* No Data

Hake Aegean Sea and Crete Island (GSA 22,23) [HAKEMEDGSA22–23]

TC-MT, TL\*, RecC\* (2003–2008–OSIO)

TAC\*, Cpair\*, Cadv\*



survB\*

MSY\*, MORAT\*

CPUE\*

EFFORT\*

CdivMSY\*

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

## Hake Gulf of Lions [HAKEMEDGSA7]

<b>Metadata</b>	
<b>Scientific Name</b>	Merluccius merluccius
<b>Current Assess ID</b>	STECF-HAKEMEDGSA7-1998-2012-OSIO
<b>Area</b>	Gulf of Lions
<b>Management Authority</b>	General Fisheries Council for the Mediterranean, DG MARE, and national states
<b>Assessor</b>	Scientific, Technical and Economic Committee for Fisheries
<b>Asmts in RAM</b>	2012

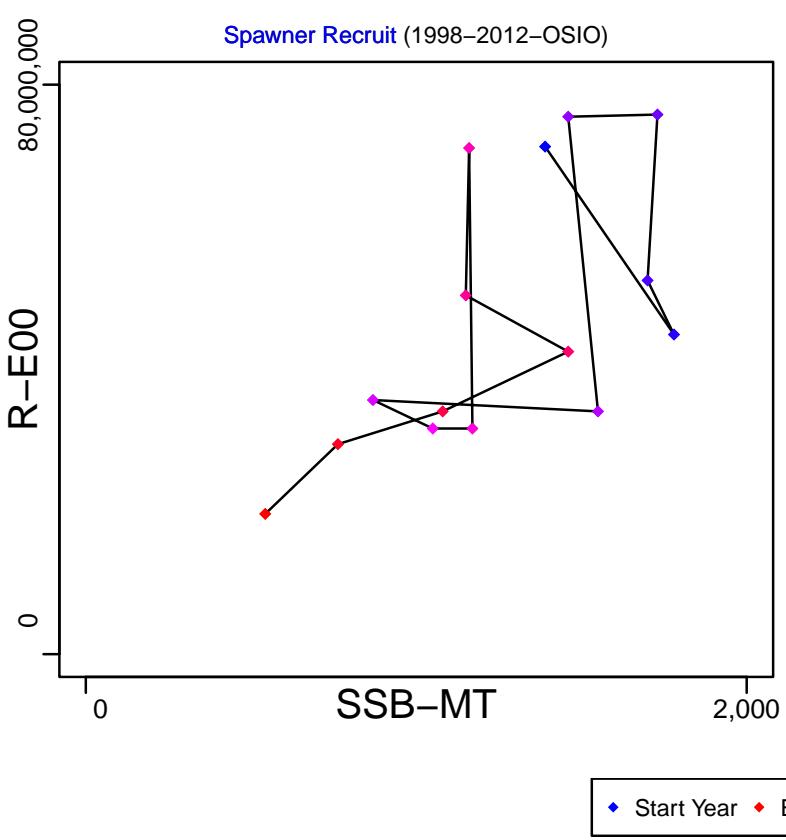
<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	Fmgt-1/yr	2012	0.11
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<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>	-	-	-	-	-
<b>SSB</b>	SSB-MT	2012	543	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2012	19,700,000	-	-
<b>F</b>	F-1/yr	2012	1.84	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	-	-	-		
<b>TL</b>	TL-MT	2012	1110		
<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>	F-1/yr/Fmgt-1/yr	2012	16.727		
<b>ER/ERmgt</b>	-	-	-		

Hake Gulf of Lions [HAKEMEDGSA7]

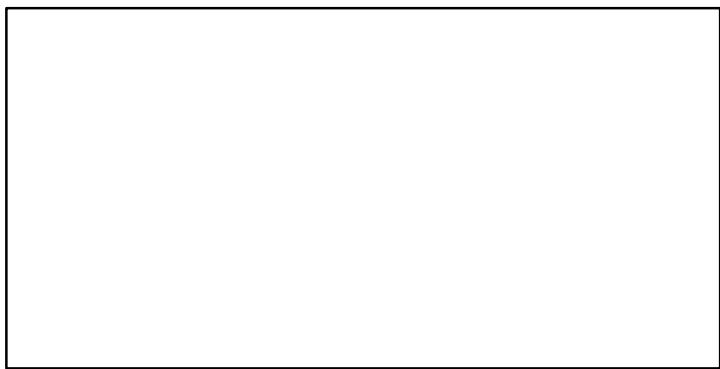
Kobe MSY\*

Kobe MGT\*

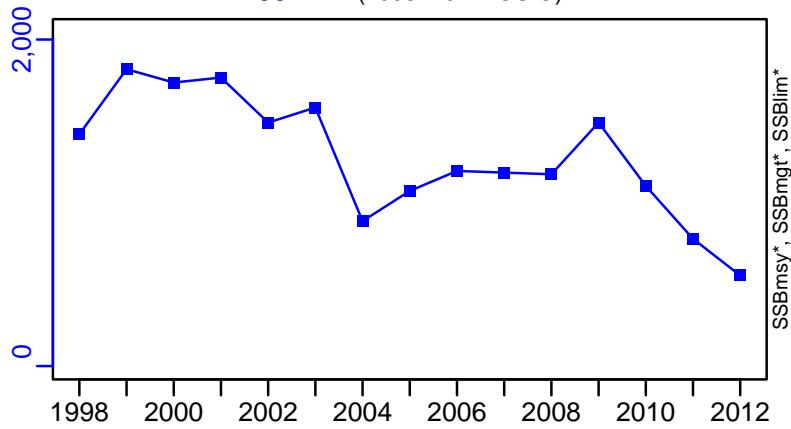


Hake Gulf of Lions [HAKEMEDGSA7]

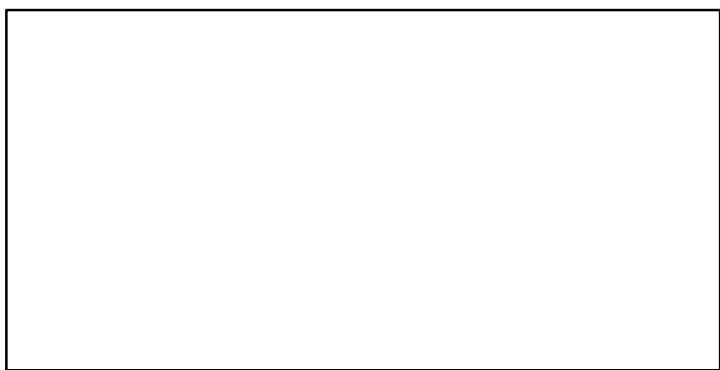
**TB\***



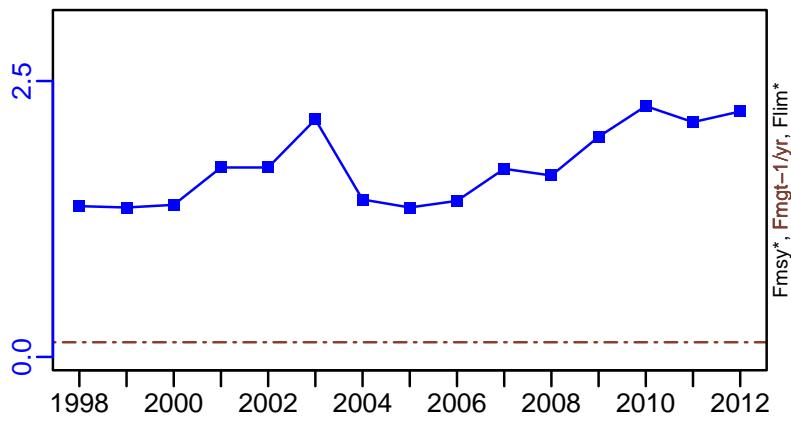
SSB-MT (1998–2012–OSIO)



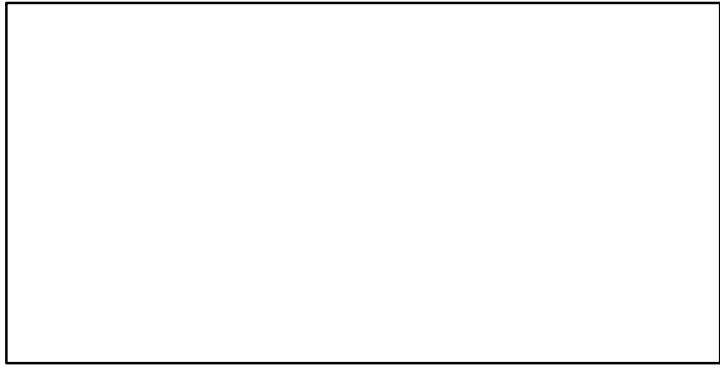
**TN \***



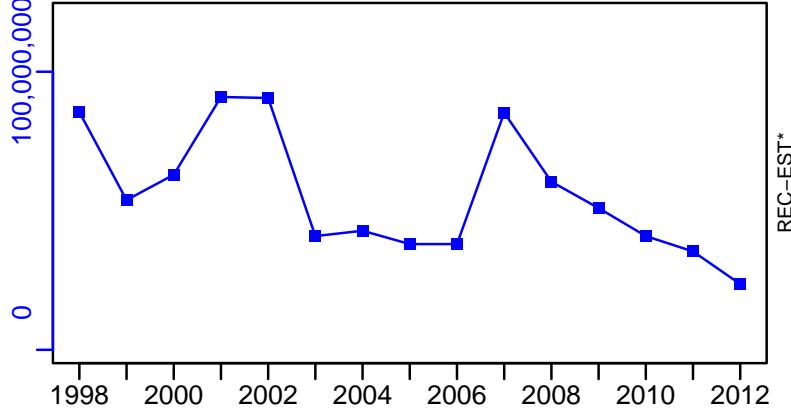
F-1/yr (1998–2012–OSIO)



**ER\***



R-E00 (1998–2012–OSIO)

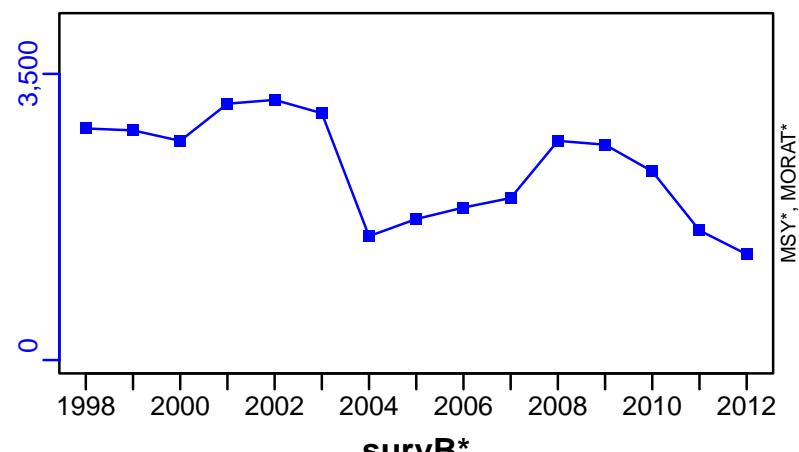


- Listed time series    - - - Target BRP    — Rec-Est
- - MSY-based BRP    - - Lim BRP    \* No Data

Hake Gulf of Lions [HAKEMEDGSA7]

TL-MT, TC\*, RecC\* (1998–2012–OSIO)

TAC\*, Cpair\*, Cadv\*



survB\*

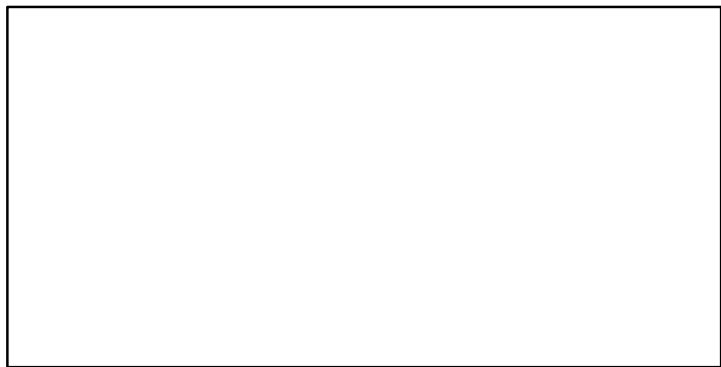
MSY\*, MORAT\*



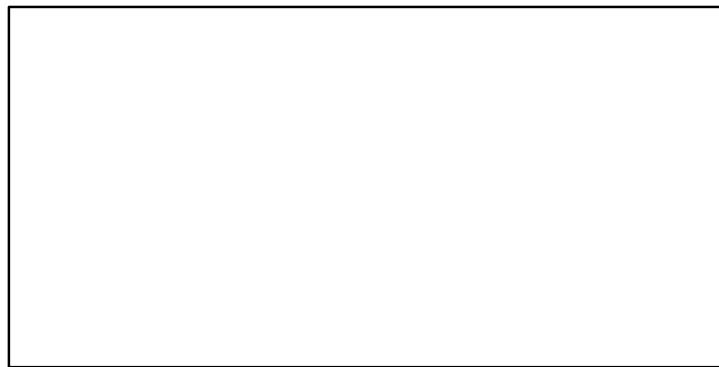
CPUE\*



EFFORT\*



CdivMSY\*



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

## Hake Geographical Sub-Areas 8-11 [HAKEMEDGSA8-11]

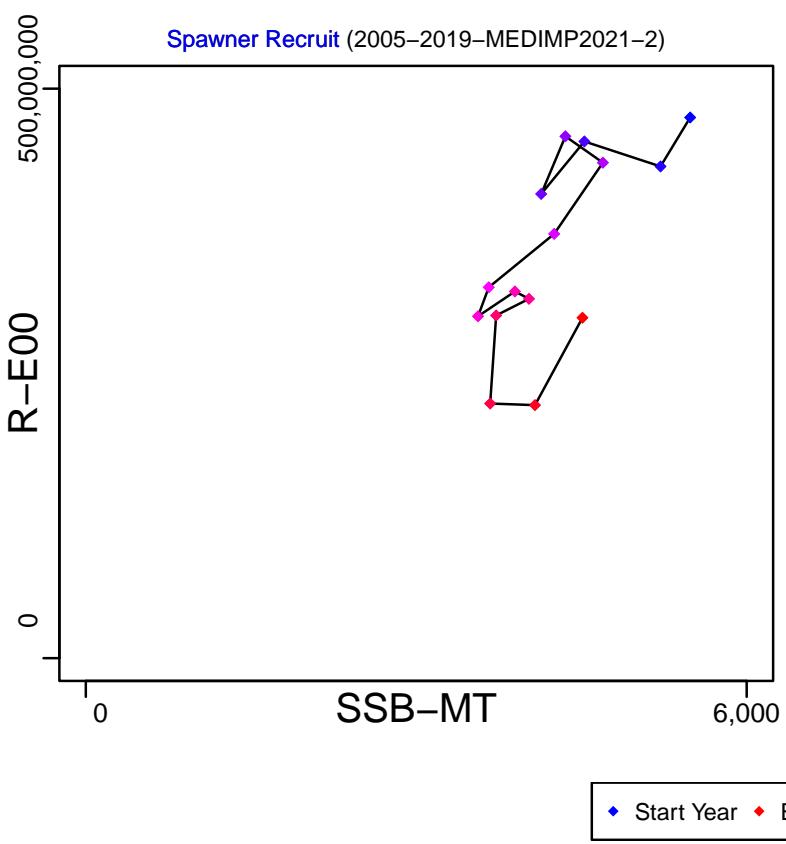
Metadata	
<b>Scientific Name</b>	Merluccius merluccius
<b>Current Assess ID</b>	STECF-HAKEMEDGSA8-11-2005-2019-MEDIMP2021-2
<b>Area</b>	Geographical Sub-Areas 8-11
<b>Management Authority</b>	General Fisheries Council for the Mediterranean, DG MARE, and national states
<b>Assessor</b>	Scientific, Technical and Economic Committee for Fisheries
<b>Asmts in RAM</b>	2019

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>	Fmgt-1/yr	2019	0.167
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<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>	-	-	-	-	-
<b>SSB</b>	SSB-MT	2019	4509	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2019	298,907,974	-	-
<b>F</b>	F-1/yr	2019	0.567	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2019	2075		
<b>TL</b>	-	-	-		
<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>	F-1/yr/Fmgt-1/yr	2019	3.391		
<b>ER/ERmgt</b>	-	-	-		

Kobe MSY\*

Kobe MGT\*

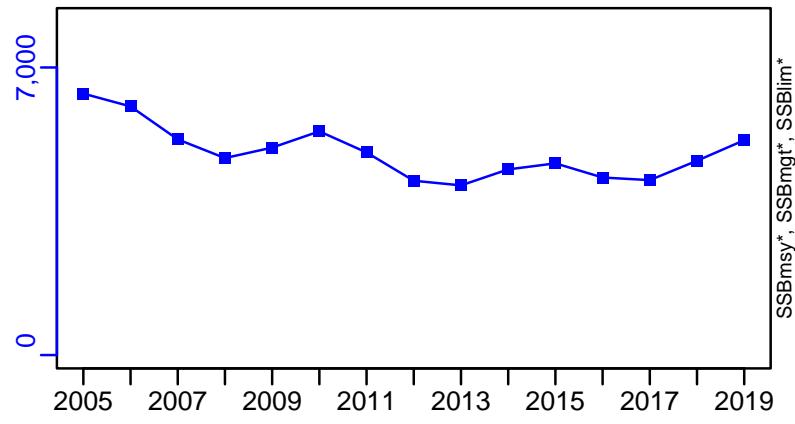


Hake Geographical Sub-Areas 8–11 [HAKEMEDGSA8–11]

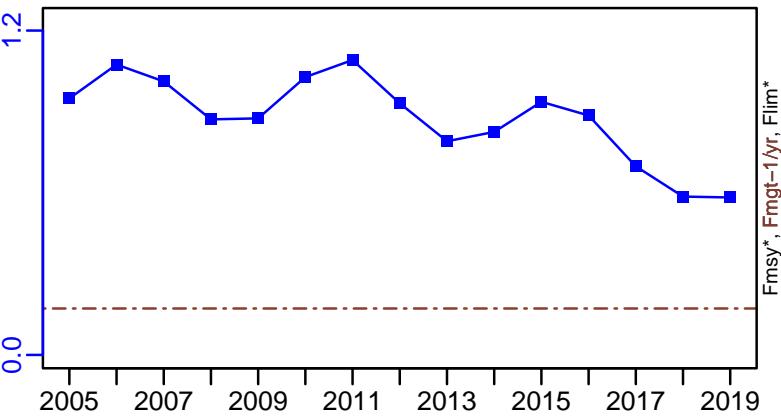
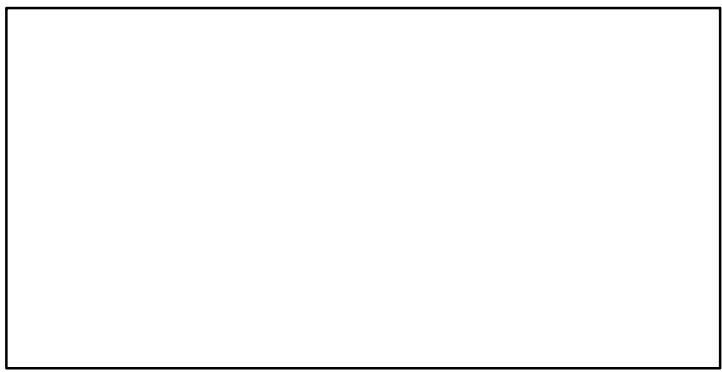
**TB\***



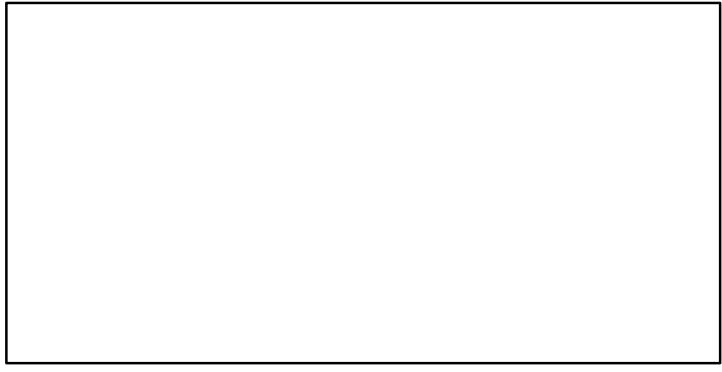
**SSB-MT** (2005–2019–MEDIMP2021–2)



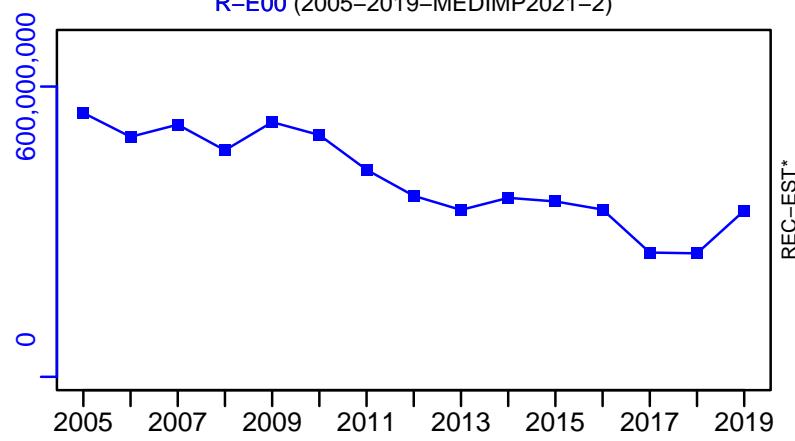
**TN \***



**ER\***



**R-E00** (2005–2019–MEDIMP2021–2)

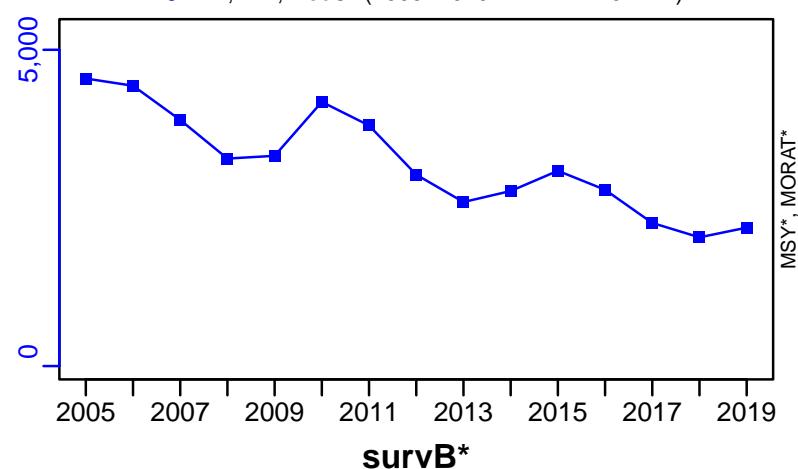


- Listed time series    - - - Target BRP    — Rec-Est
- - MSY-based BRP    - - Lim BRP    \* No Data

Hake Geographical Sub-Areas 8–11 [HAKEMEDGSA8–11]

TC–MT, TL\*, RecC\* (2005–2019–MEDIMP2021–2)

TAC\*, Cpair\*, Cadv\*



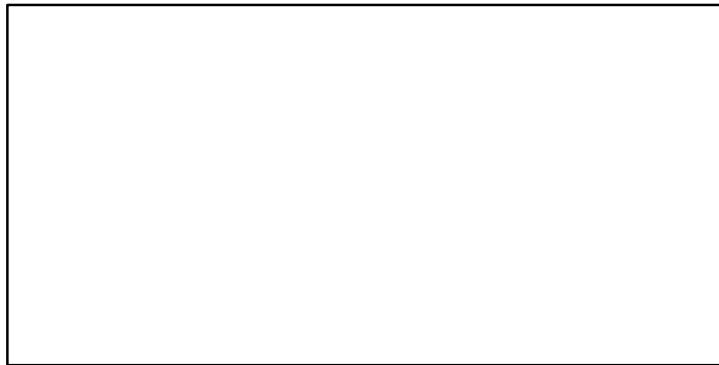
survB\*



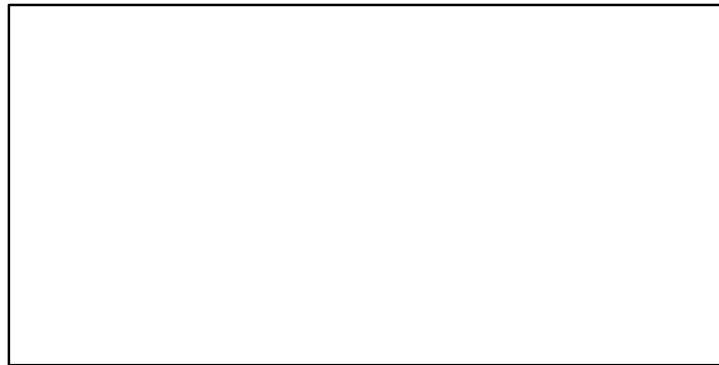
CPUE\*



EFFORT\*



CdivMSY\*



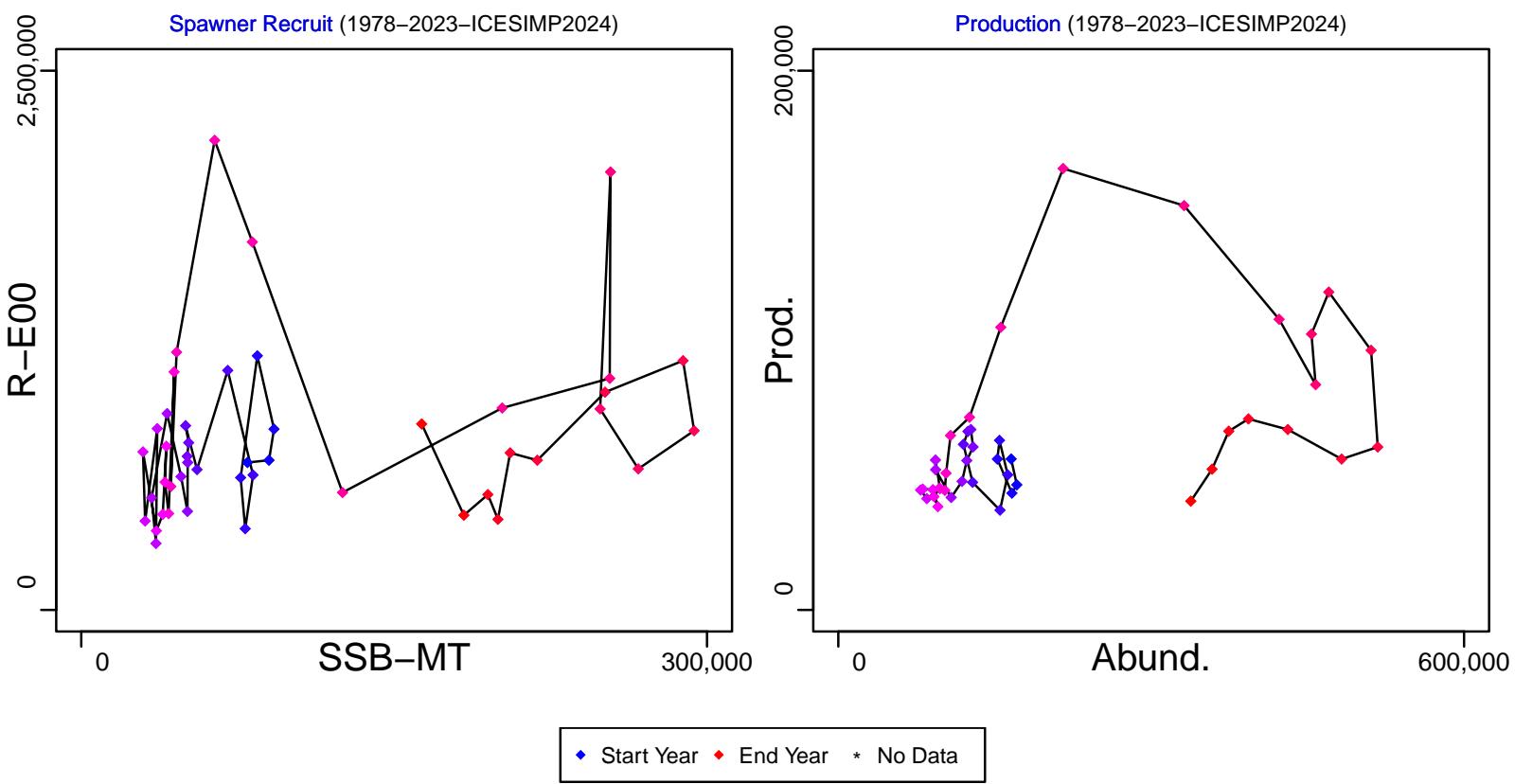
- |                          |                          |           |
|--------------------------|--------------------------|-----------|
| ■ 1st listed time series | ▲ 3rd listed time series | — MORAT   |
| ● 2nd listed time series | - - MSY                  | * No Data |

## Hake ICES 3a-4-6-7-8abd [HAKENRTN]

Metadata	
<b>Scientific Name</b>	Merluccius merluccius
<b>Current Assess ID</b>	WGBIE-HAKENRTN-1978-2023-ICESIMP2024
<b>Area</b>	ICES 3a-4-6-7-8abd
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group for the Bay of Biscay and the Iberian Waters Ecoregion
<b>Asmts in RAM</b>	2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2023, 2011

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2023	0.24
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	Fmgt-1/yr	2023	0.24
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2023	61,563
<b>Flim</b>	Flim-1/yr	2023	0.73
<b>ERlim</b>	-	-	-

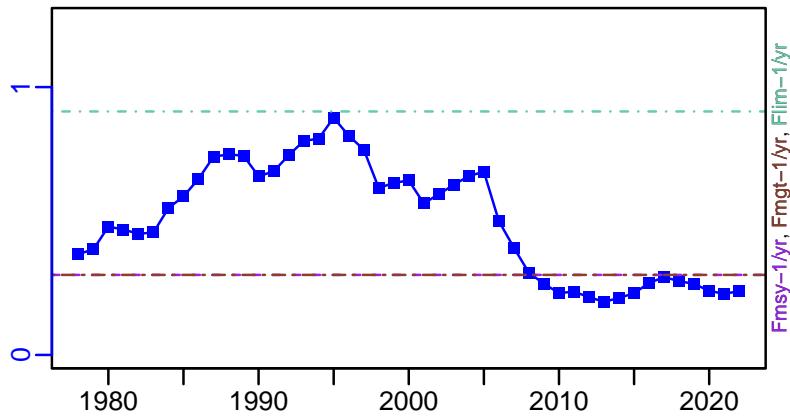
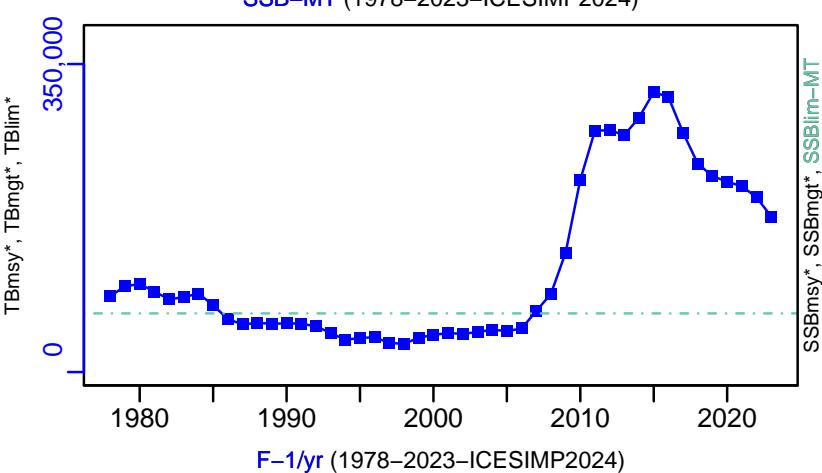
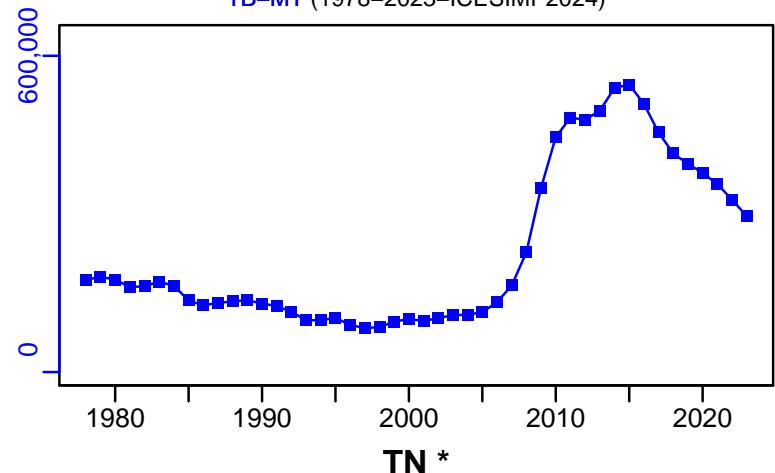
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2023	280,323	-	-	
<b>SSB</b>	SSB-MT	2023	163,204	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2023	862,134	-	0	
<b>F</b>	F-1/yr	2023	0.191	-	1 to 7	
<b>ER</b>	ER-calc-ratio	2023	0.217	-	-	
<b>TC</b>	TC-MT	2021	75,800			
<b>TL</b>	TL-MT	2023	67,433			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2023	0.797			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2023	0.797			
<b>ER/ERmgt</b>	-	-	-			

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

Hake ICES 3a-4-6-7-8abd [HAKENRTN]

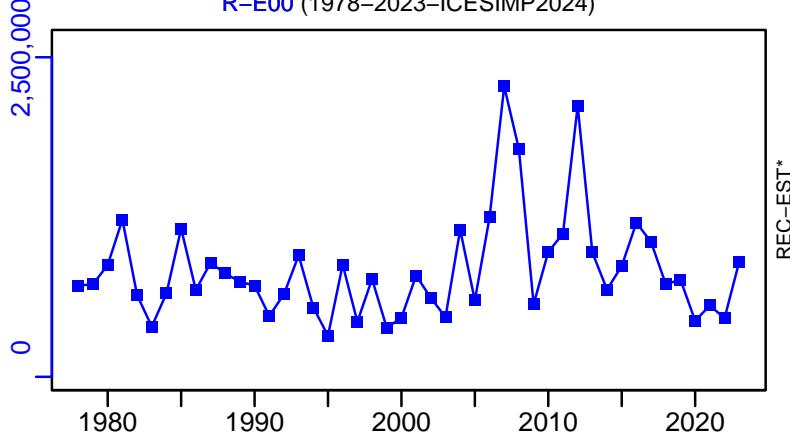
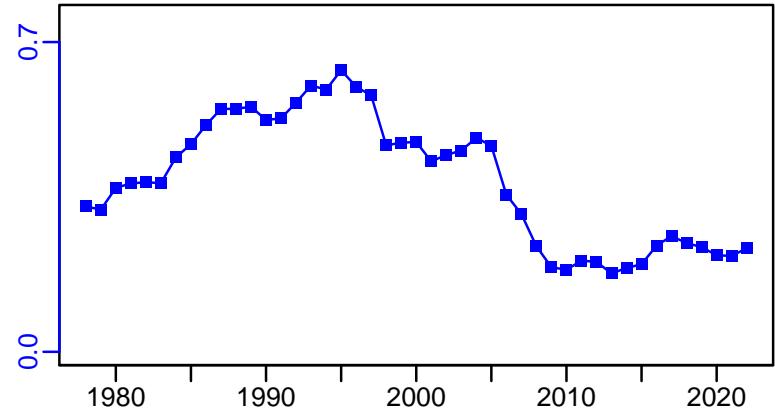
TB-MT (1978–2023–ICESIMP2024)

SSB-MT (1978–2023–ICESIMP2024)



ER-calc-ratio (1978–2023–ICESIMP2024)

R-E00 (1978–2023–ICESIMP2024)

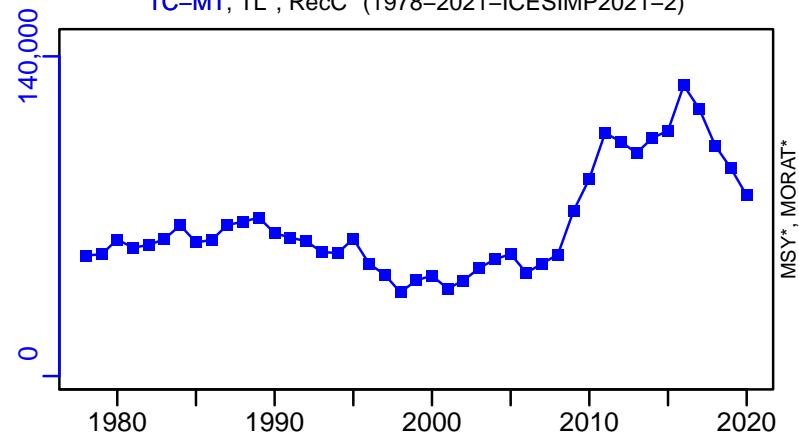


■ Listed time series	--- Target BRP	— Rec-Est
- - MSY-based BRP	- - Lim BRP	* No Data

Hake ICES 3a-4-6-7-8abd [HAKENRTN]

TC-MT, TL\*, RecC\* (1978–2021–ICESIMP2021-2)

TAC\*, Cpair\*, Cadv\*



survB\*

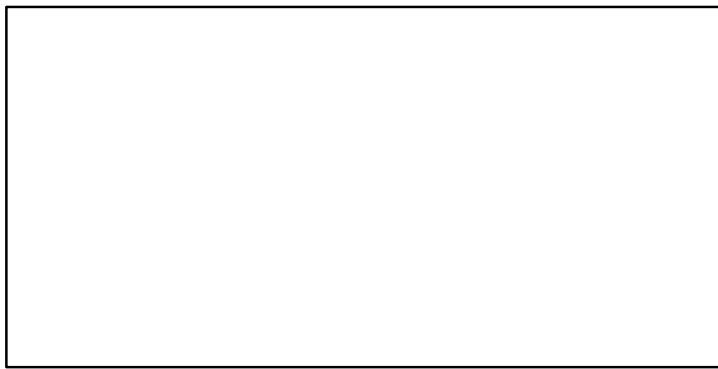
MSY\*, MORAT\*



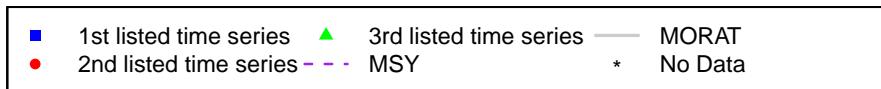
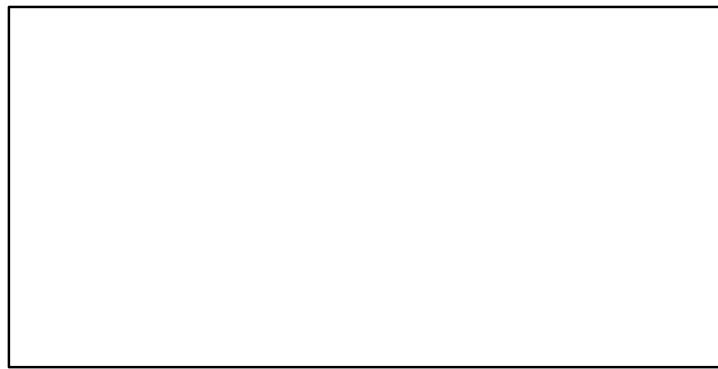
CPUE\*



EFFORT\*



CdivMSY\*



## Hake North West Africa Morocco [HAKENWAMAR]

<b>Metadata</b>	
<b>Scientific Name</b>	Merluccius merluccius
<b>Current Assess ID</b>	FAO-DR-HAKENWAMAR-1980-2016-ASHBROOK
<b>Area</b>	North West Africa Morocco
<b>Management Authority</b>	Food and Agriculture Organization of the United Nations
<b>Assessor</b>	FAO/CECAF Working Group on the Assessment of Demersal Resources
<b>Asmts in RAM</b>	2016

<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>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<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>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2016	5381		
<b>TL</b>	-	-	-		
<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\***

◆ Start Year ♦ End Year \* No Data

Hake North West Africa Morocco [HAKENWAMAR]

**TB\***



**SSB\***



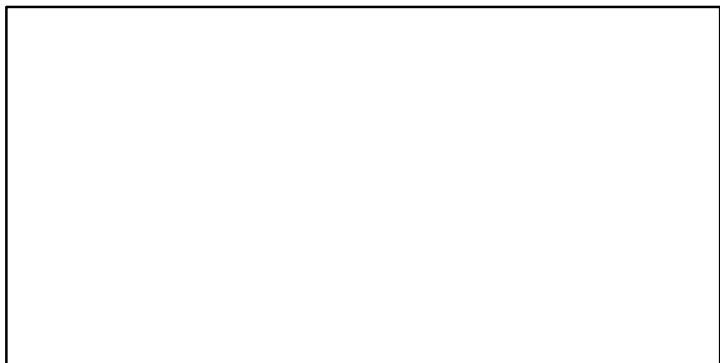
**TN \***



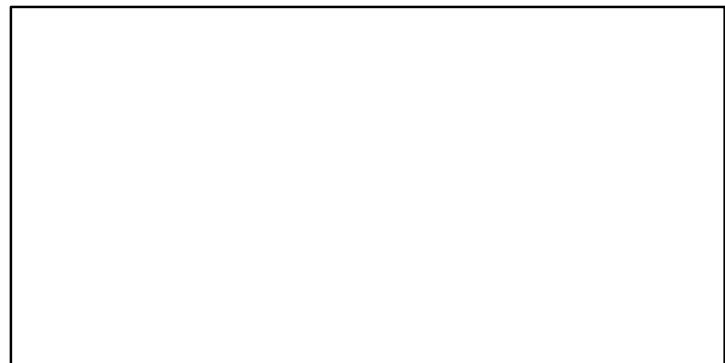
**F\***



**ER\***



**Recruits\***

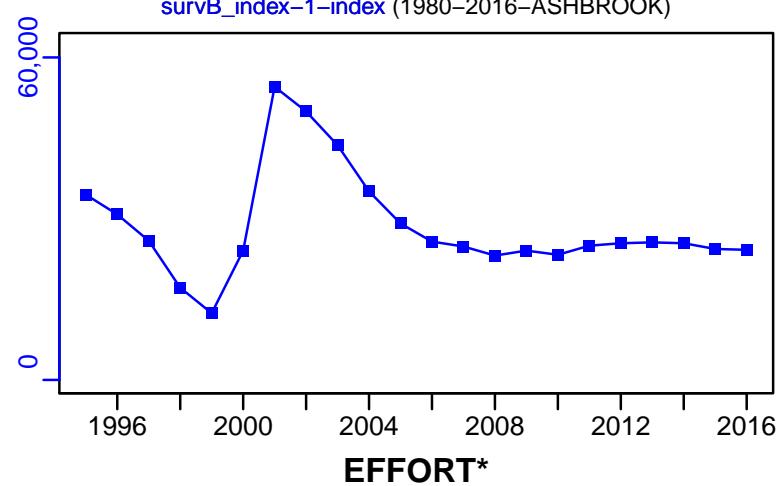
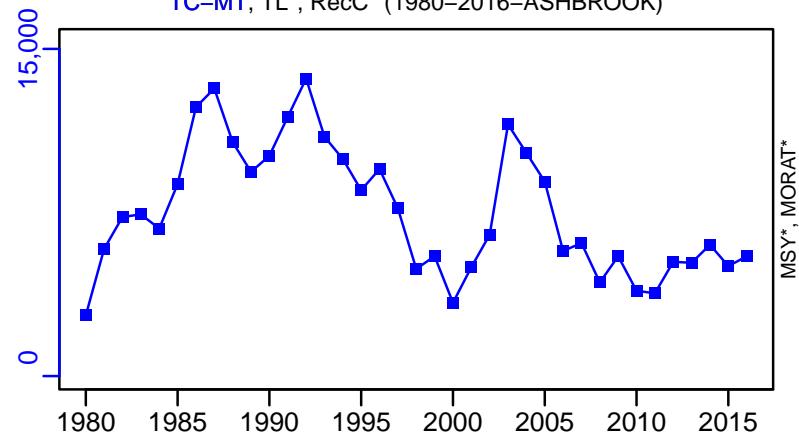


- |                      |                  |           |
|----------------------|------------------|-----------|
| ■ Listed time series | - - - Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP    | * No Data |

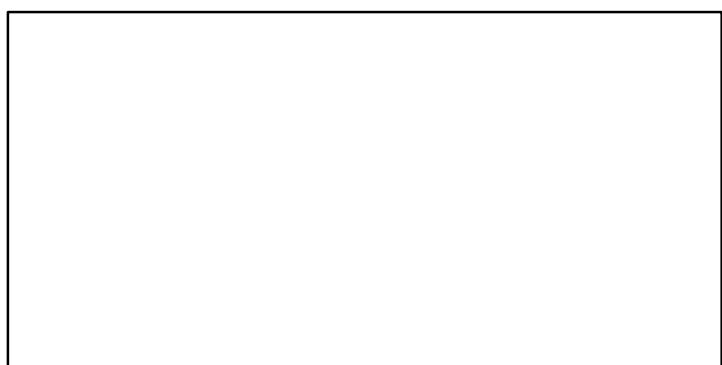
Hake North West Africa Morocco [HAKENWAMAR]

TC-MT, TL\*, RecC\* (1980–2016–ASHBROOK)

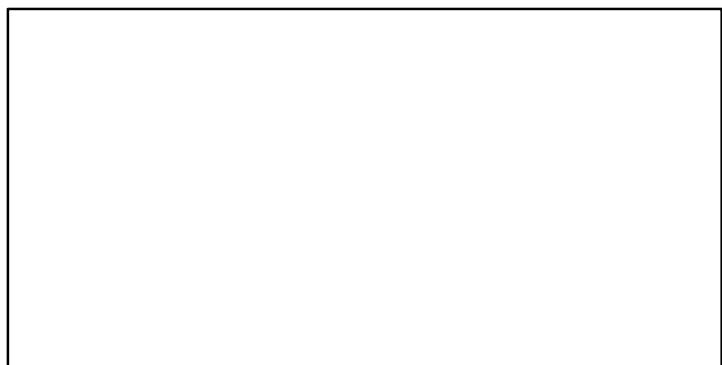
TAC\*, Cpair\*, Cadv\*



CPUE\*



CdivMSY\*



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

## Hake ICES 8c-9a [HAKESOTH]

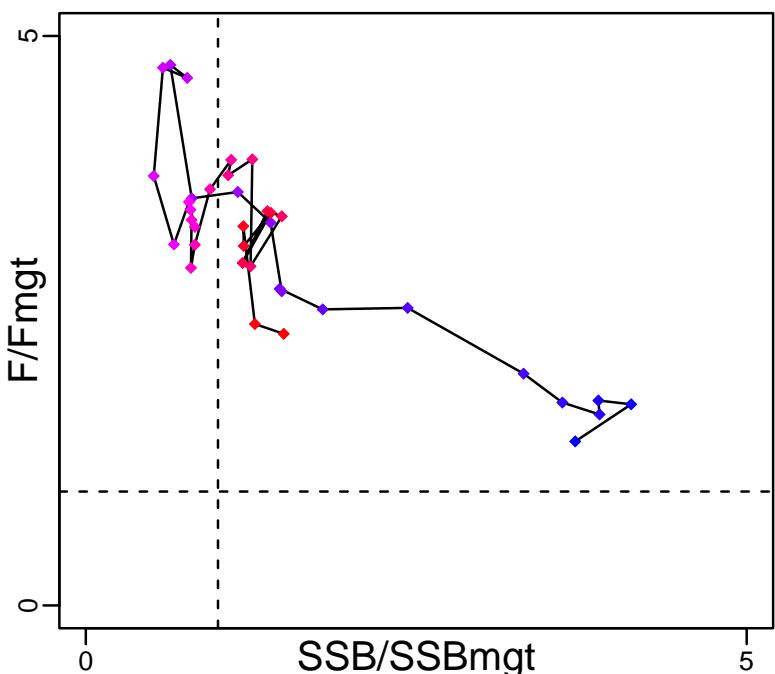
Metadata	
<b>Scientific Name</b>	Merluccius merluccius
<b>Current Assess ID</b>	WGBIE-HAKESOTH-1989-2020-ICESIMP2021-2
<b>Area</b>	ICES 8c-9a
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group for the Bay of Biscay and the Iberian Waters Ecoregion
<b>Asmts in RAM</b>	2014, 2015, 2016, 2017, 2018, 2019, 2019, 2020, 2011, 2013

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2018	0.25
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2019	11,100
<b>Fmgt</b>	Fmgt-1/yr	2019	0.25
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2018	8000
<b>Flim</b>	Flim-1/yr	2018	1.05
<b>ERlim</b>	-	-	-

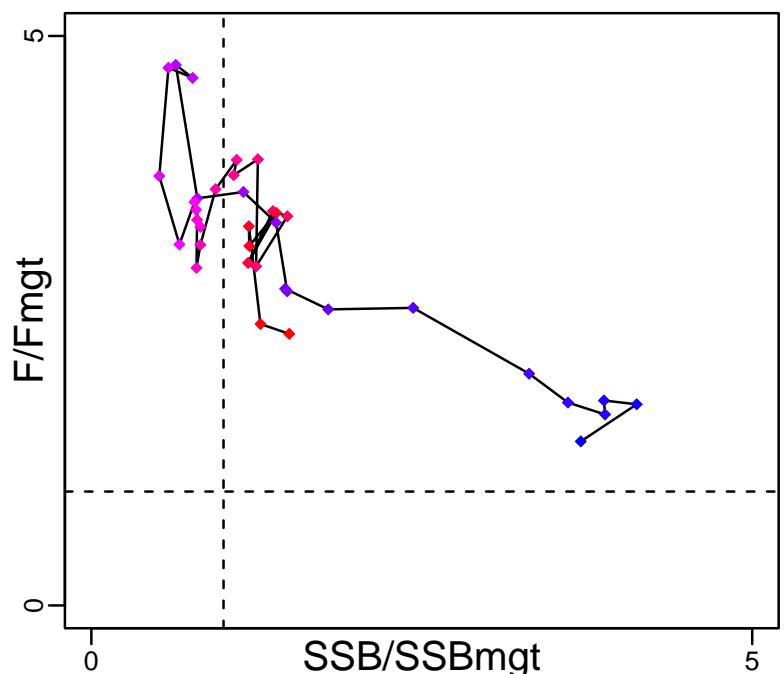
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2019	20,988	-	-	
<b>SSB</b>	SSB-MT	2019	17,430	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2019	78,619,505	-	0	
<b>F</b>	F-1/yr	2019	0.596	-	1 to 3	
<b>ER</b>	ER-calc-ratio	2019	0.575	-	-	
<b>TC</b>	TC-MT	2020	9170			
<b>TL</b>	TL-MT	2020	8730			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2018	1.76			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2019	1.57			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2019	2.384			
<b>ER/ERmgt</b>	-	-	-			

Hake ICES 8c-9a [HAKESOTH]

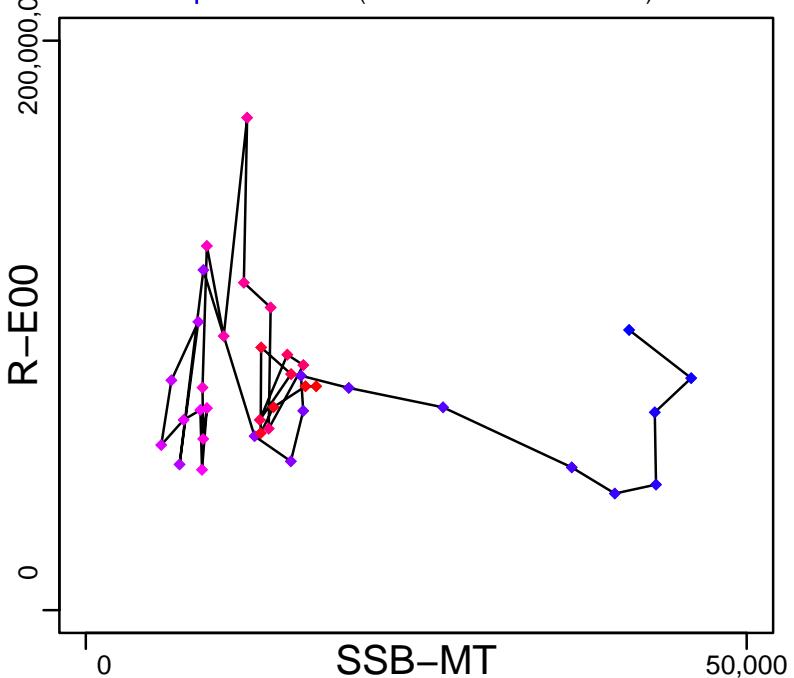
Kobe MSYpref (1982–2019–ICESIMP2021)



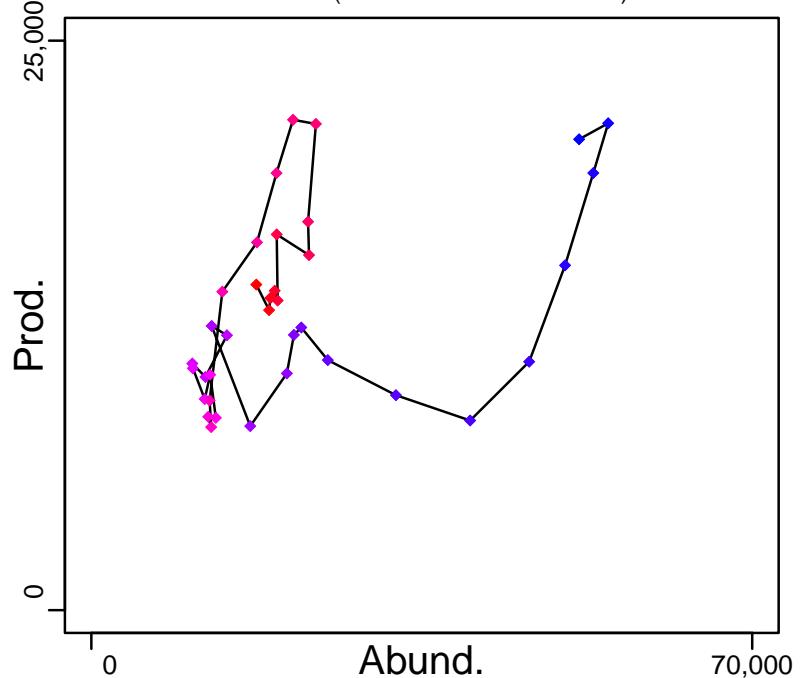
Kobe MGTpref (1982–2019–ICESIMP2021)



Spawner Recruit (1982–2019–ICESIMP2021)



Production (1982–2019–ICESIMP2021)

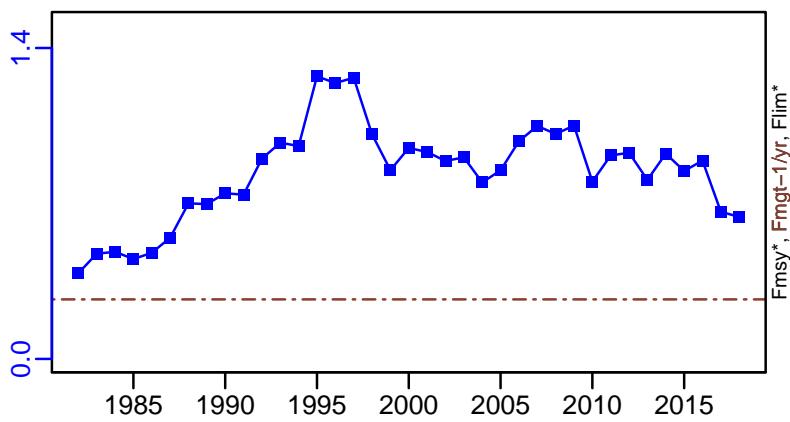
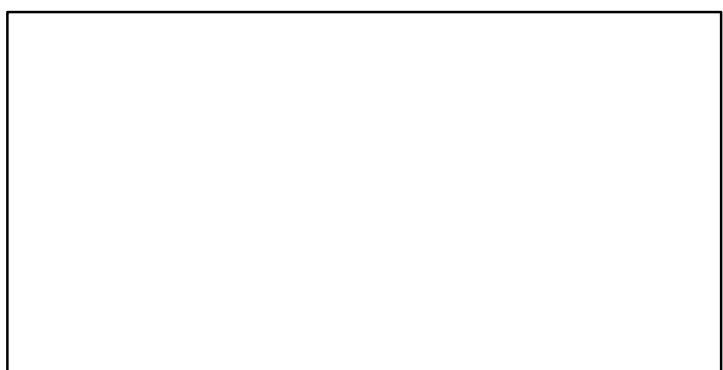
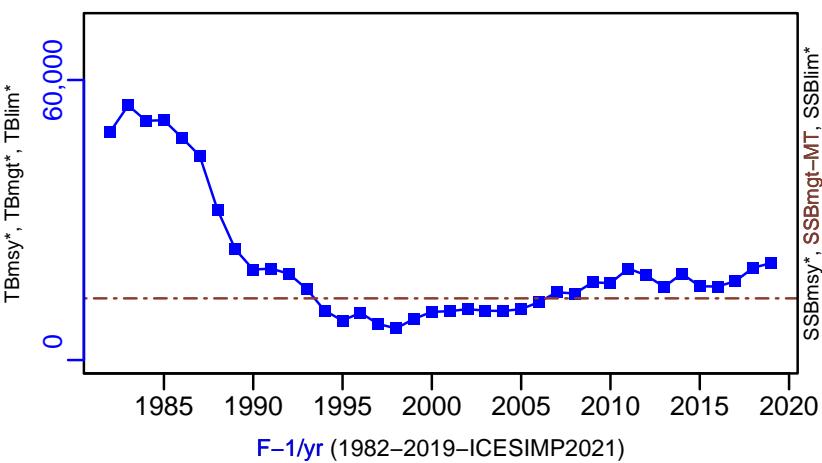
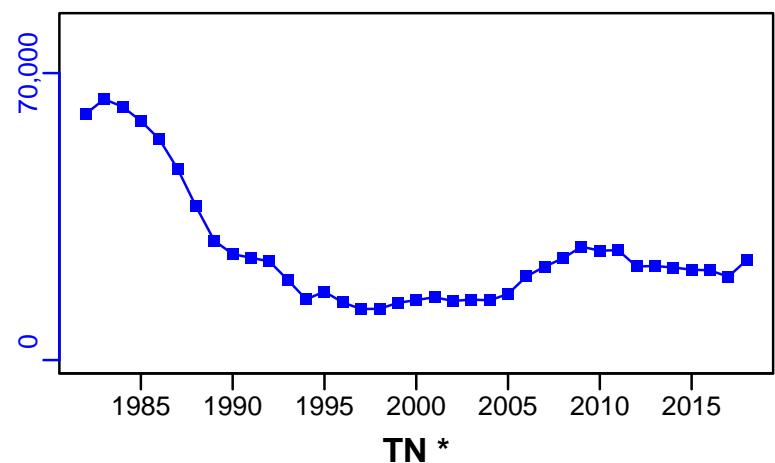


◆ Start Year   ◆ End Year   \* No Data

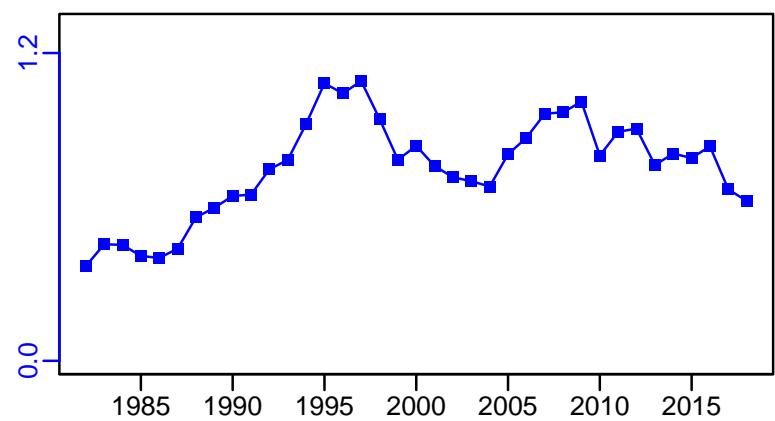
Hake ICES 8c–9a [HAKESOTH]

TB-MT (1982–2019–ICESIMP2021)

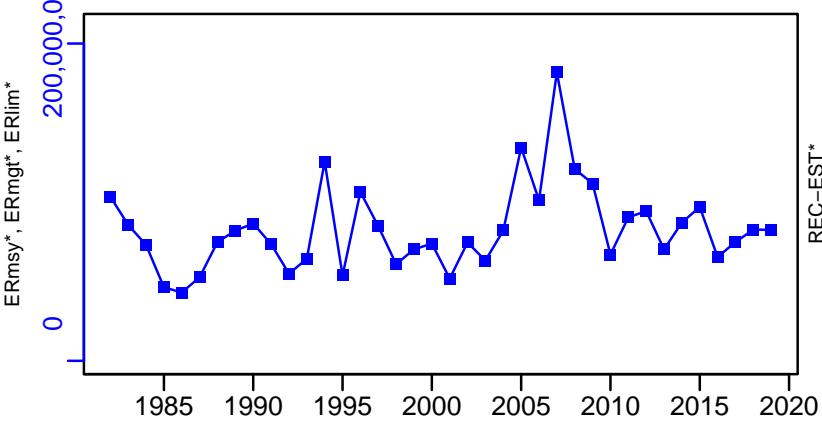
SSB-MT (1982–2019–ICESIMP2021)



ER-calc-ratio (1982–2019–ICESIMP2021)



R-E00 (1982–2019–ICESIMP2021)

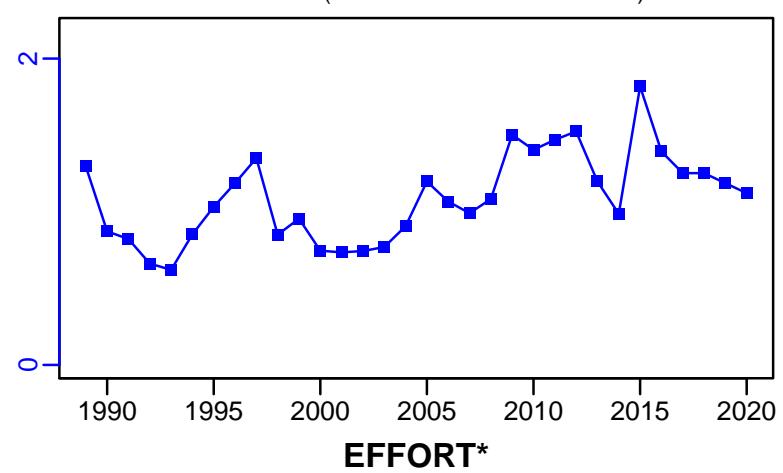
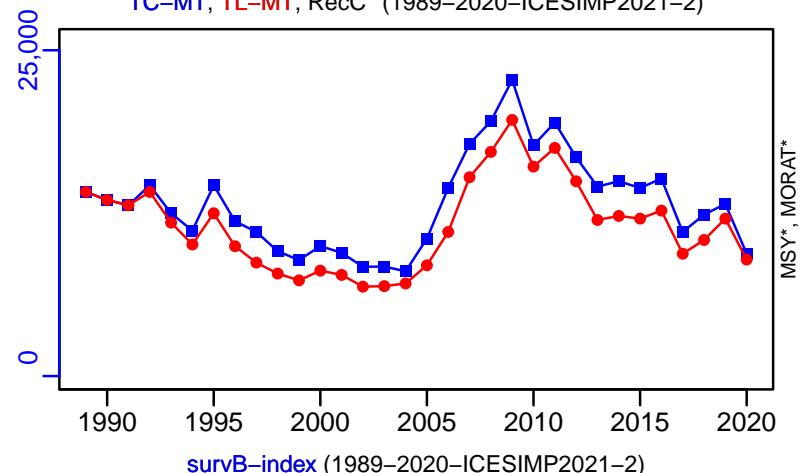


■ Listed time series	— Target BRP	— Rec-Est
— MSY-based BRP	··· Lim BRP	* No Data

Hake ICES 8c–9a [HAKESOTH]

TC-MT, TL-MT, RecC\* (1989–2020–ICESIMP2021–2)

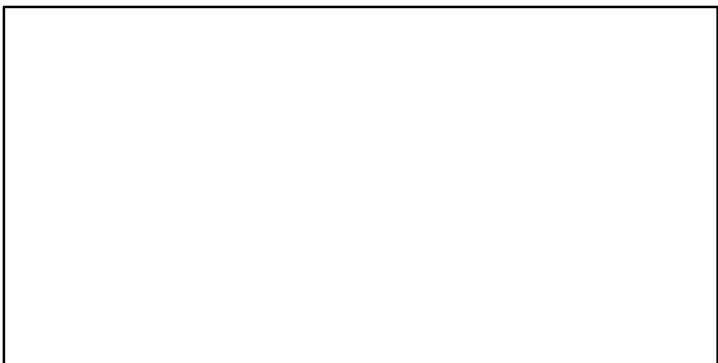
TAC\*, Cpair\*, Cadv\*



CPUE\*



CdivMSY\*



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

## Hake spp North West Africa [HAKESPPNWA]

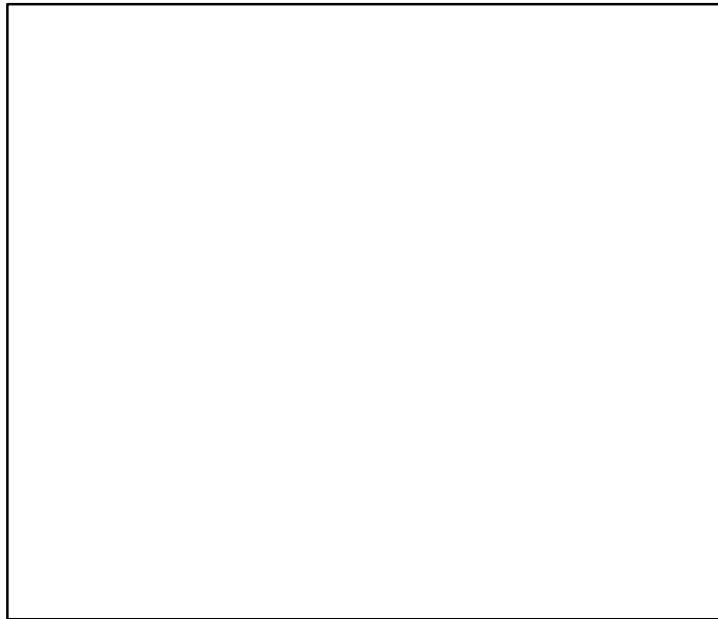
Metadata	
<b>Scientific Name</b>	Merluccius spp
<b>Current Assess ID</b>	FAO-DR-HAKESPPNWA-1983-2016-ASHBROOK
<b>Area</b>	North West Africa
<b>Management Authority</b>	Food and Agriculture Organization of the United Nations
<b>Assessor</b>	FAO/CECAF Working Group on the Assessment of Demersal Resources
<b>Asmts in RAM</b>	2016

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>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

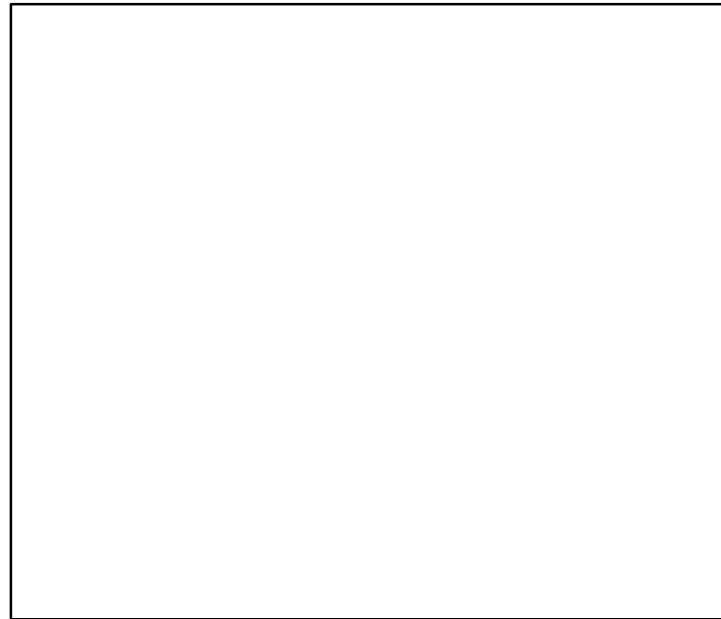
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2016	16,972		
<b>TL</b>	-	-	-		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

Hake spp North West Africa [HAKESPPNWA]

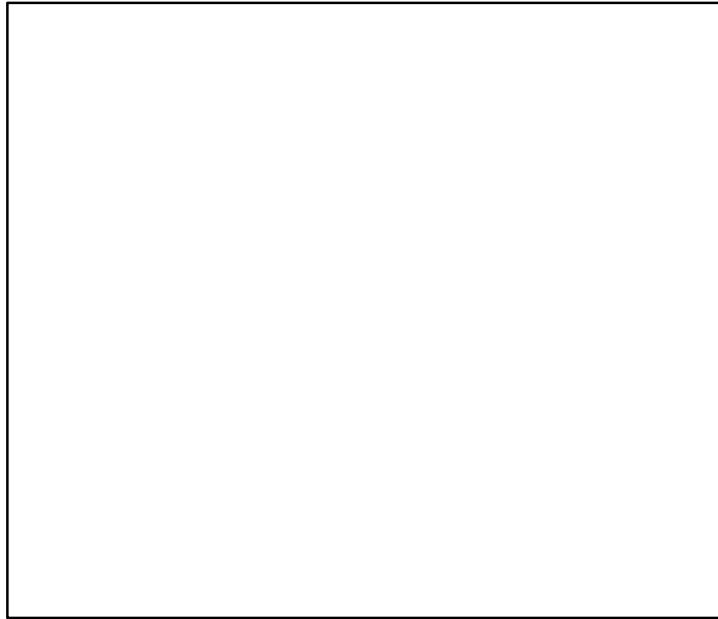
**Kobe MSY\***



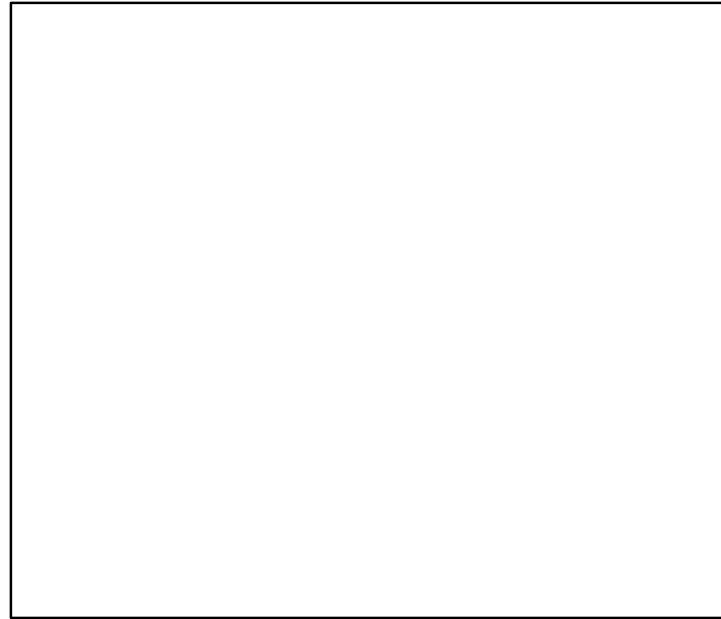
**Kobe MGT\***



**Spawner Recruit\***



**Production\***



◆ Start Year ♦ End Year \* No Data

Hake spp North West Africa [HAKESPPNWA]

**TB\***



**SSB\***



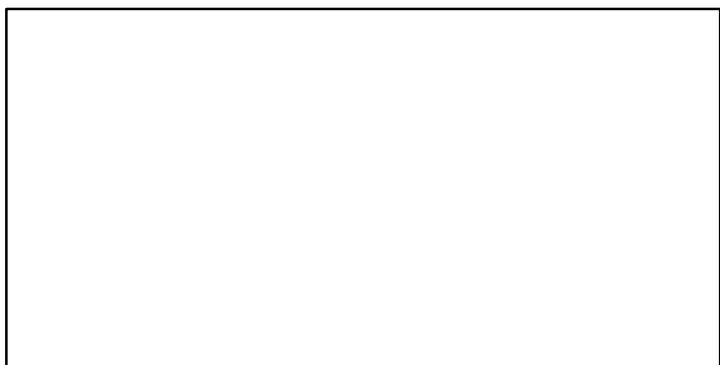
**TN \***



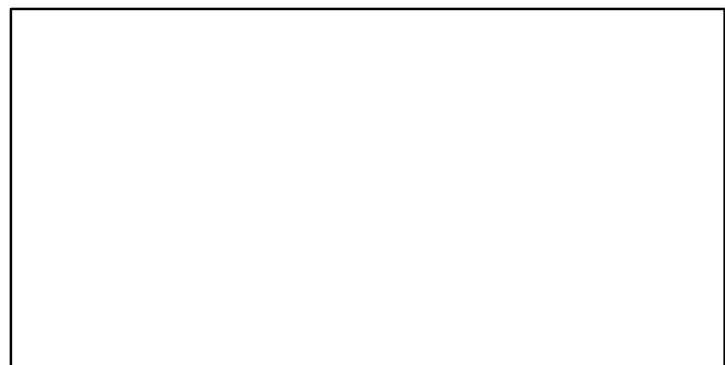
**F\***



**ER\***



**Recruits\***

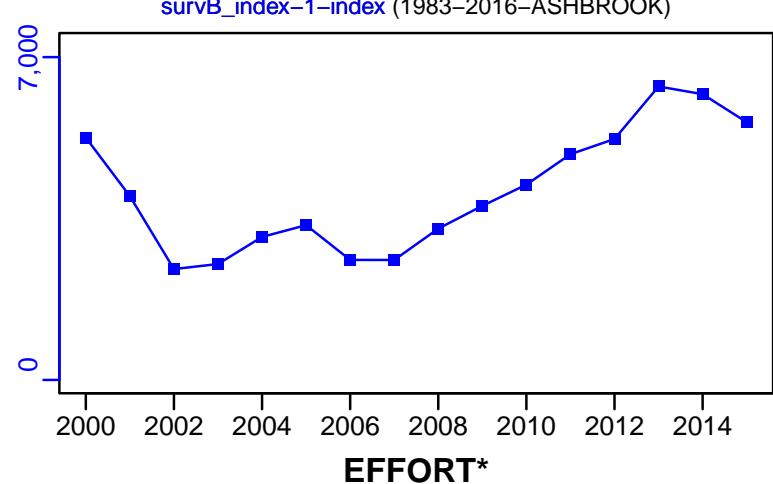
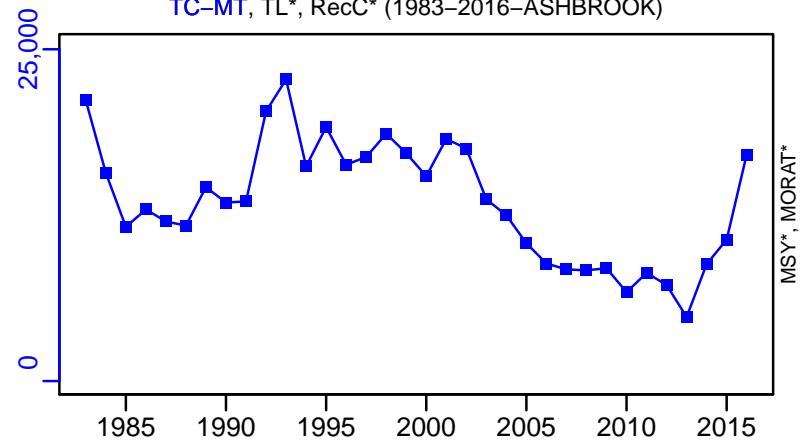


- |                      |                  |           |
|----------------------|------------------|-----------|
| ■ Listed time series | - - - Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP    | * No Data |

Hake spp North West Africa [HAKESPPNWA]

TC-MT, TL\*, RecC\* (1983–2016-ASHBROOK)

TAC\*, Cpair\*, Cadv\*



EFFORT\*

CPUE\*

CdivMSY\*

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

## Hake spp Southern Africa [HAKESPPSAF]

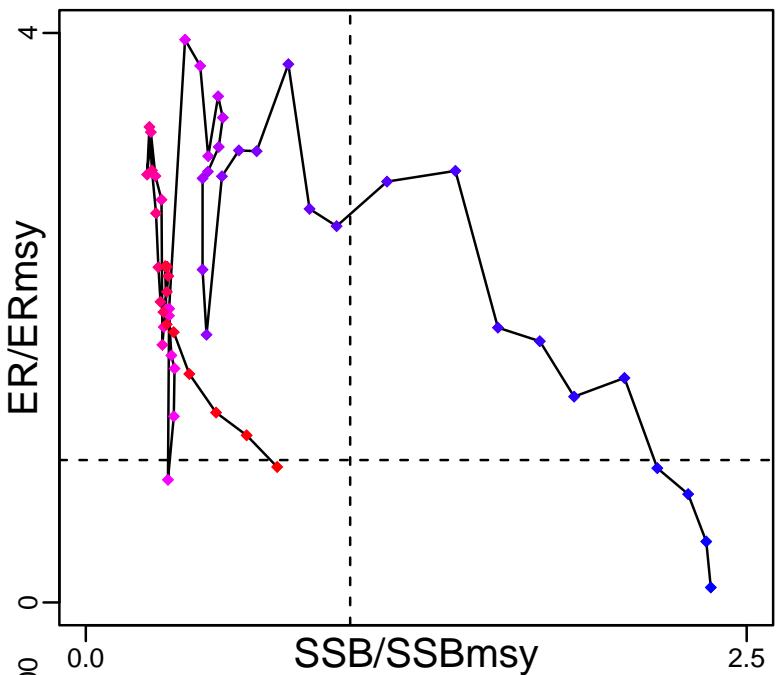
Metadata	
<b>Scientific Name</b>	Merluccius spp
<b>Current Assess ID</b>	NatMIRC-HAKESPPSAF-1964-2019-ASHBROOK
<b>Area</b>	Southern Africa
<b>Management Authority</b>	Ministry of Fisheries and Marine Resources
<b>Assessor</b>	National Marine Information and Research Centre
<b>Asmts in RAM</b>	2019

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>	-	-	-

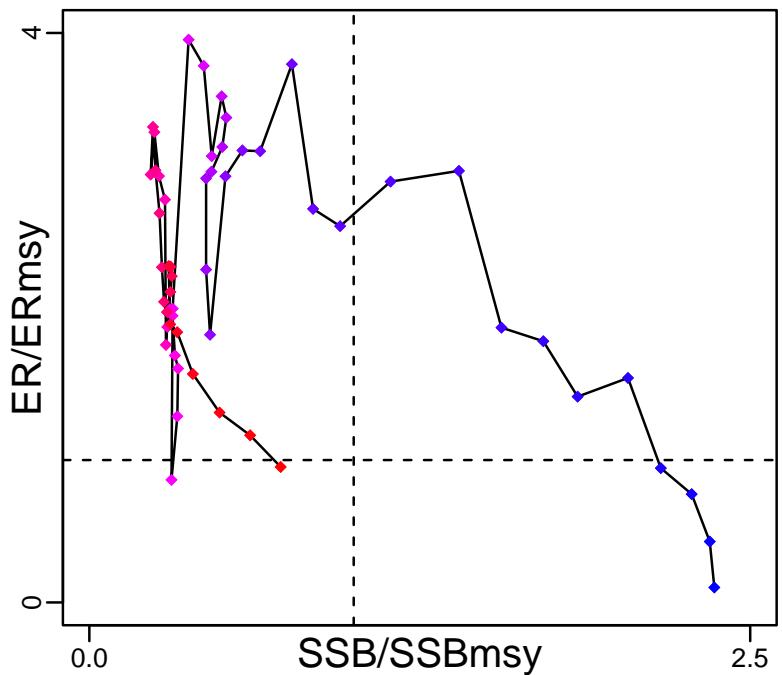
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2019	2,426,180	-	-	
<b>SSB</b>	SSB-MT	2019	1,884,330	-	4+	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2019	35,792,400,000	-	0	
<b>F</b>	F-1/yr	2019	0.115	-	-	
<b>ER</b>	ER-calc-ratio	2019	0.063	-	-	
<b>TC</b>	TC-MT	2019	152,033			
<b>TL</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]

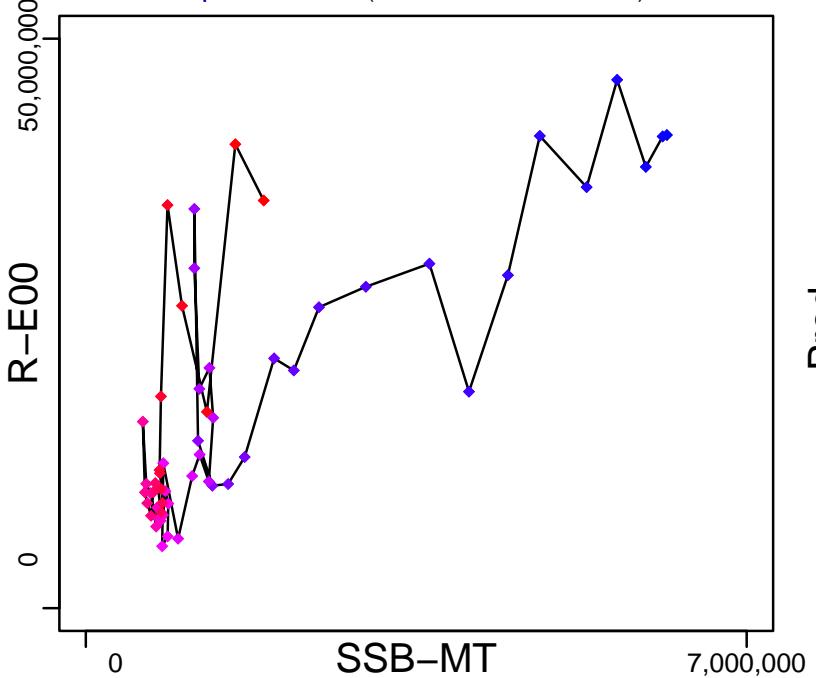
Kobe MSYpref (1964–2019–ASHBROOK)



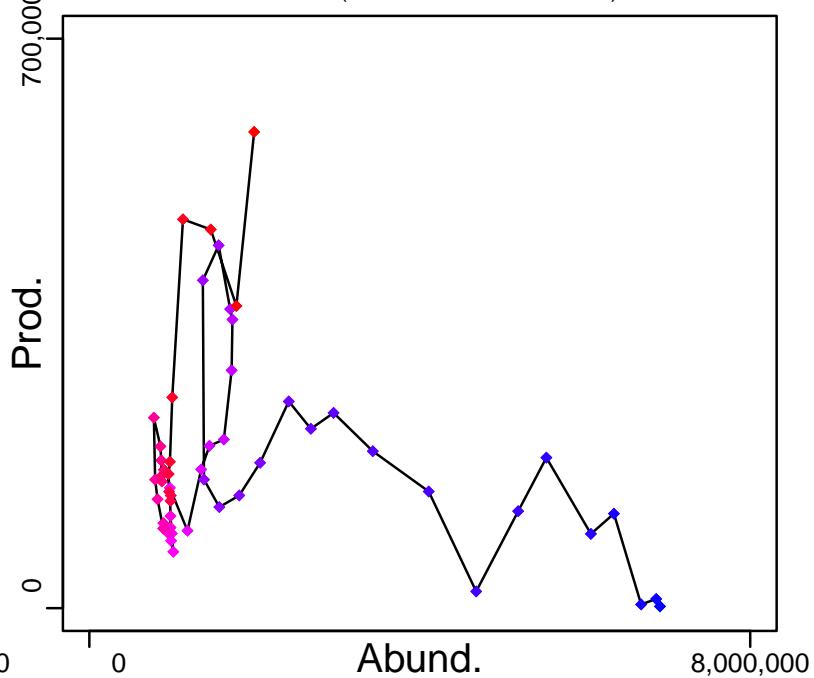
Kobe MGTpref (1964–2019–ASHBROOK)



Spawner Recruit (1964–2019–ASHBROOK)



Production (1964–2019–ASHBROOK)

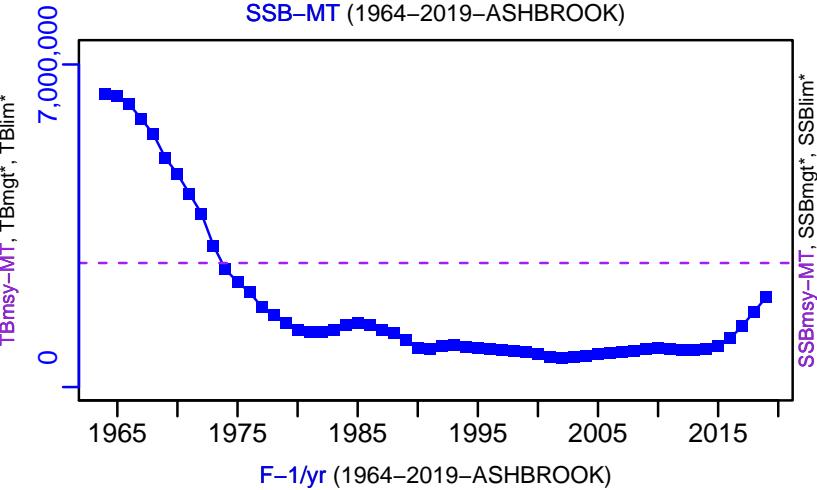
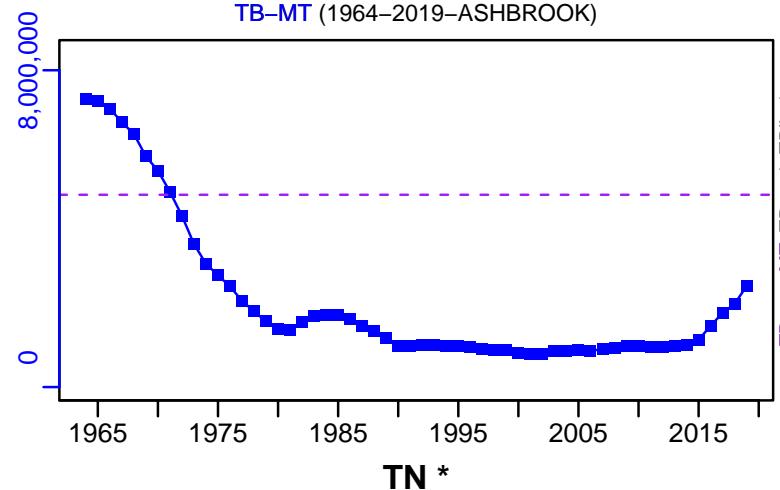


◆ Start Year ◆ End Year \* No Data

Hake spp Southern Africa [HAKESPPSAF]

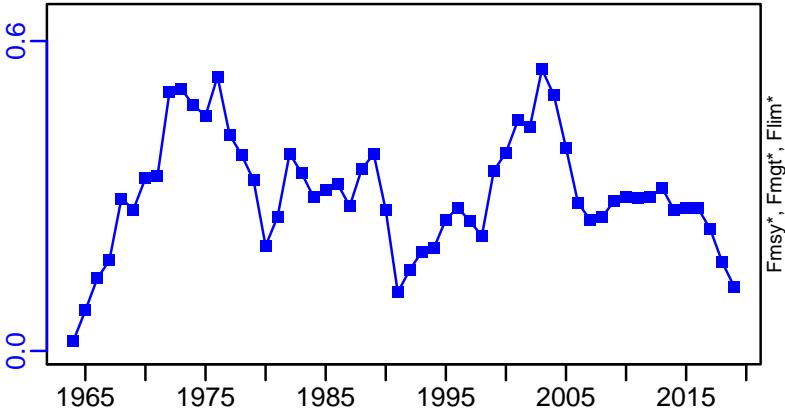
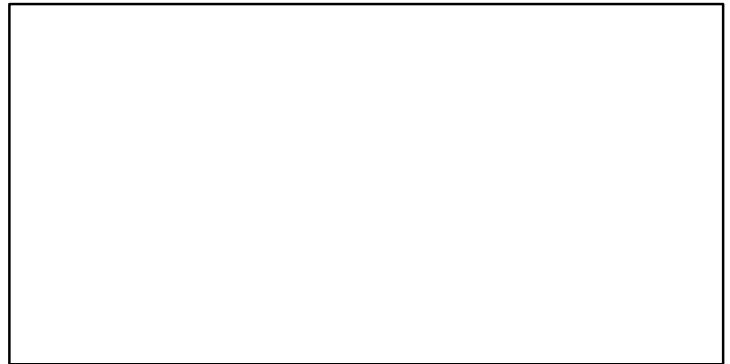
TB-MT (1964–2019–ASHBROOK)

SSB-MT (1964–2019–ASHBROOK)



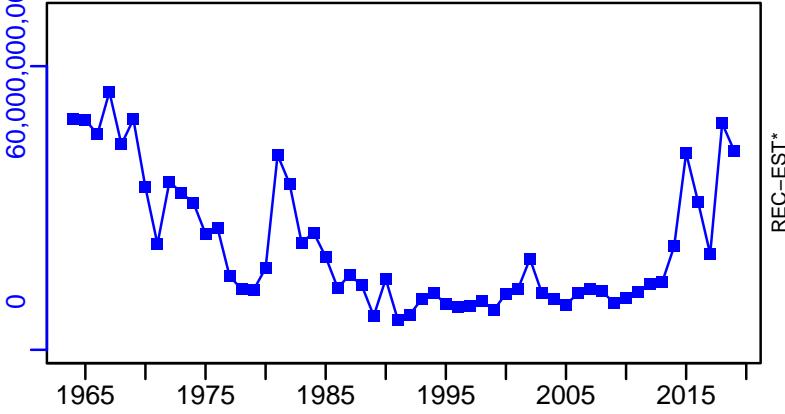
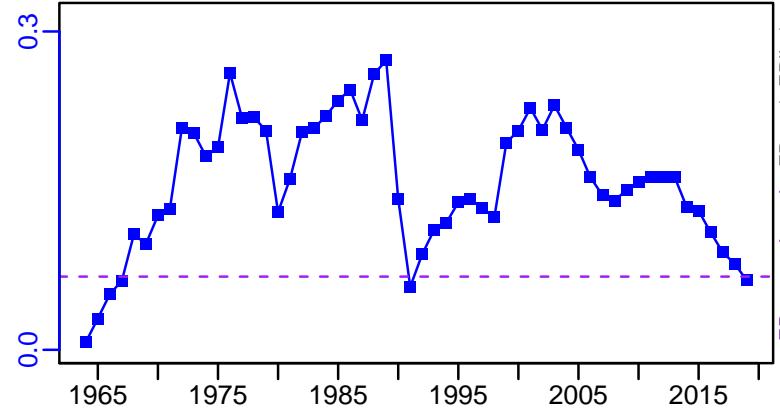
TN \*

F-1/yr (1964–2019–ASHBROOK)



ER-calc-ratio (1964–2019–ASHBROOK)

R-E00 (1964–2019–ASHBROOK)



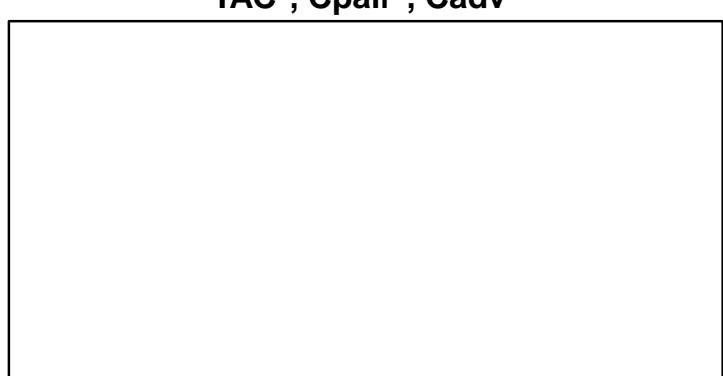
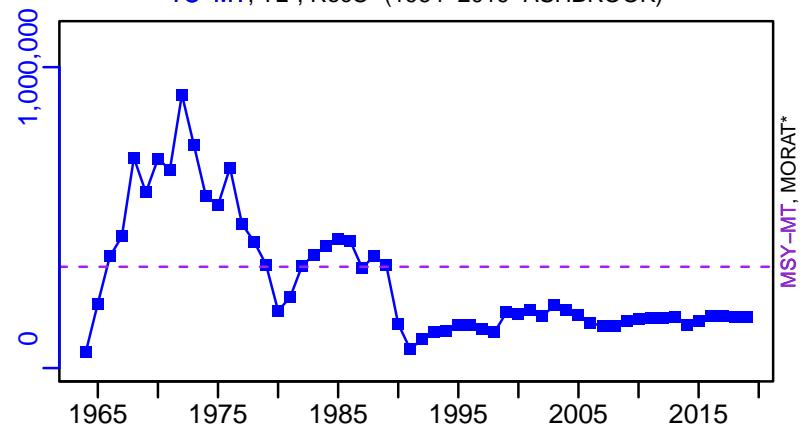
REC-EST\*

- |                                       |                    |                                      |            |                                     |         |
|---------------------------------------|--------------------|--------------------------------------|------------|-------------------------------------|---------|
| <span style="color: blue;">█</span>   | Listed time series | <span style="color: brown;">—</span> | Target BRP | <span style="color: gray;">—</span> | Rec-Est |
| <span style="color: purple;">—</span> | MSY-based BRP      | <span style="color: cyan;">—</span>  | Lim BRP    | *                                   | No Data |

Hake spp Southern Africa [HAKESPPSAF]

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

TAC\*, Cpair\*, Cadv\*

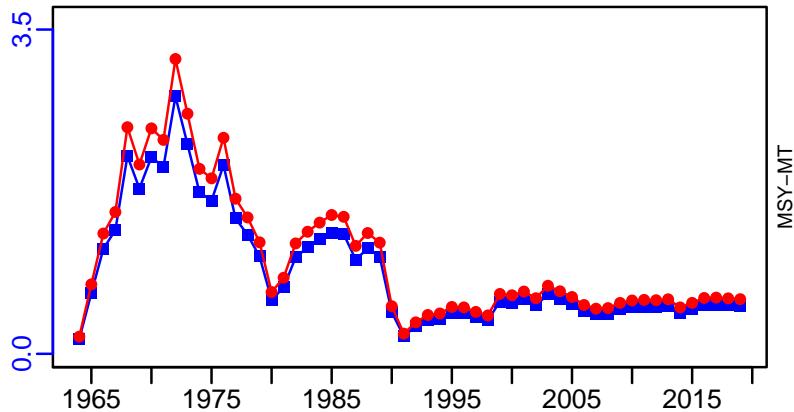
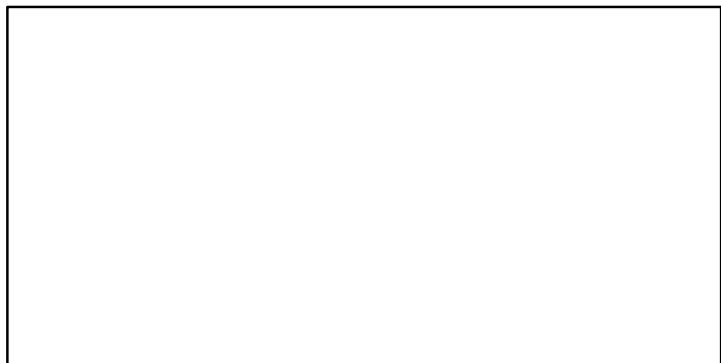


**survB\***

**CPUE\***

**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

## Hoki Eastern New Zealand [HOKIENZ]

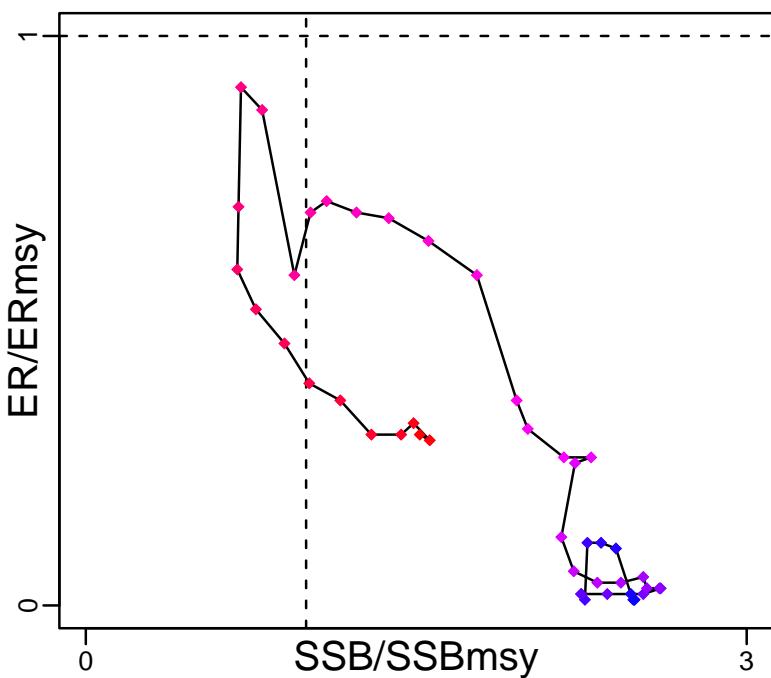
Metadata	
<b>Scientific Name</b>	Macruronus novaezelandiae
<b>Current Assess ID</b>	NIWA-HOKIENZ-1970-2022-MCGREGOR
<b>Area</b>	Eastern New Zealand
<b>Management Authority</b>	Ministry of Fisheries, New Zealand national management
<b>Assessor</b>	National Institute of Water and Atmospheric Research
<b>Asmts in RAM</b>	2012, 2015, 2021, 2022

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	TBmsy-calc-MT	2015	252,069
<b>SSBmsy</b>	SSBmsy-MT	2022	273,446
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-ratio	2015	0.29
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2022	290,536
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	SSB0-MT	2022	683,616
<b>MSY</b>	MSY-MT	2015	73,100
<b>M</b>	M-1/yr	2015	0.29
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

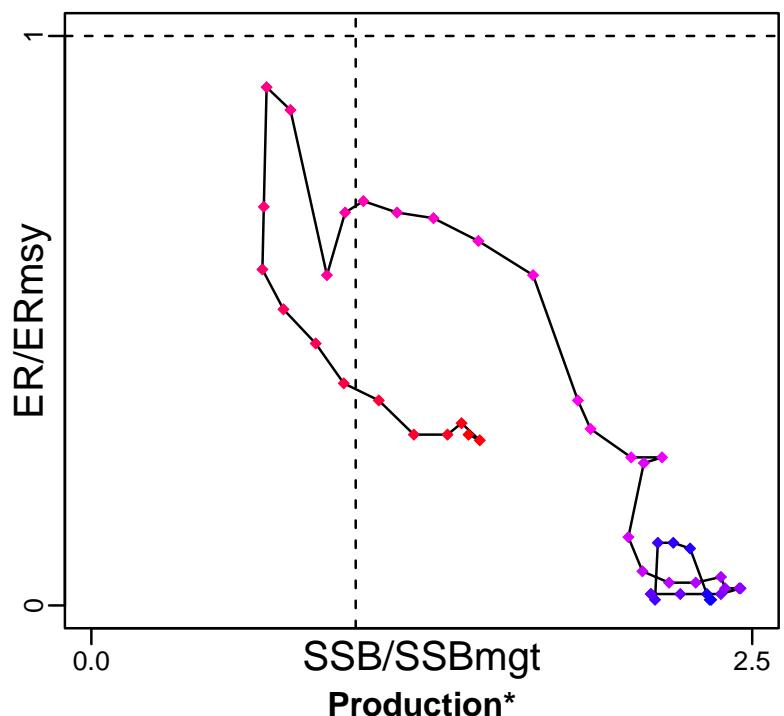
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	-	-	-	-	-	-
<b>SSB</b>	SSB-MT	2022	337,886	-	2+	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2022	31,136,300	-	-	
<b>F</b>	F-1/yr	2012	0.107	-	-	
<b>ER</b>	ER-ratio	2022	0.151	-	-	
<b>TC</b>	TC-MT	2022	51,200			
<b>TL</b>	-	-	-			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2022	1.236			
<b>F/Fmsy</b>	FdivFmsy-dimensionless	2012	0.382			
<b>ER/ERmsy</b>	ERdivERmsy-dimensionless	2015	0.3			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2022	1.163			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

Hoki Eastern New Zealand [HOKIENZ]

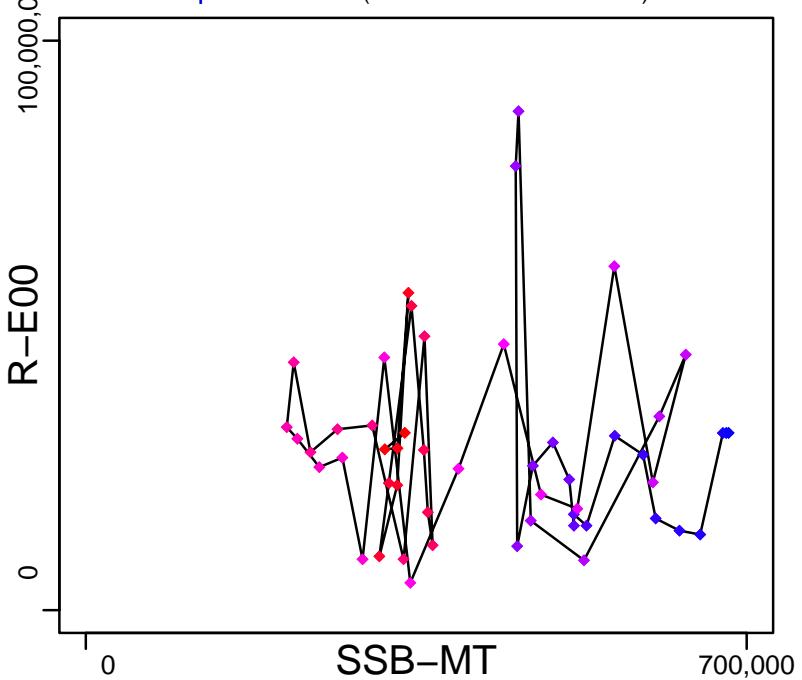
Kobe MSYpref (1970–2015–FU)



Kobe MGTpref (1970–2015–FU)



Spawner Recruit (1970–2022–MCGREGOR)



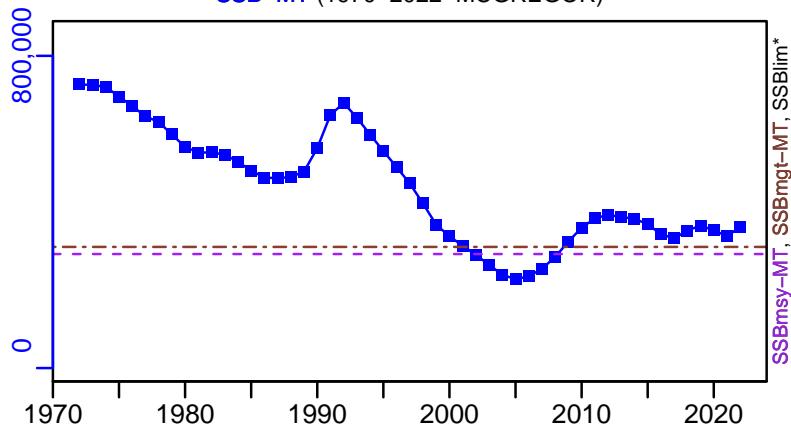
◆ Start Year   ◆ End Year   \* No Data

Hoki Eastern New Zealand [HOKIENZ]

**TB\***



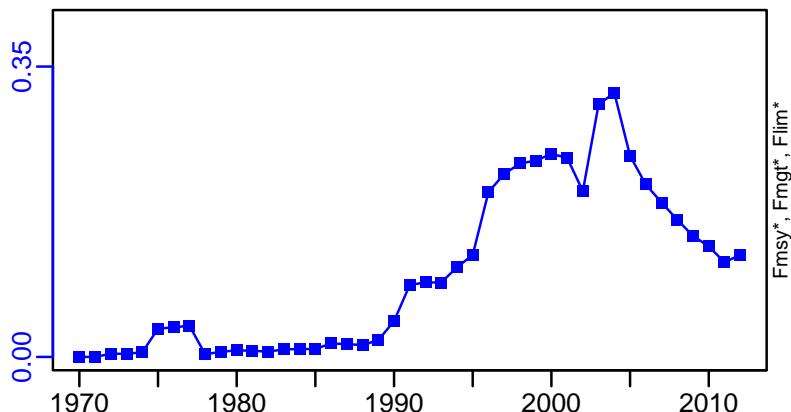
**SSB-MT (1970–2022–MCGREGOR)**



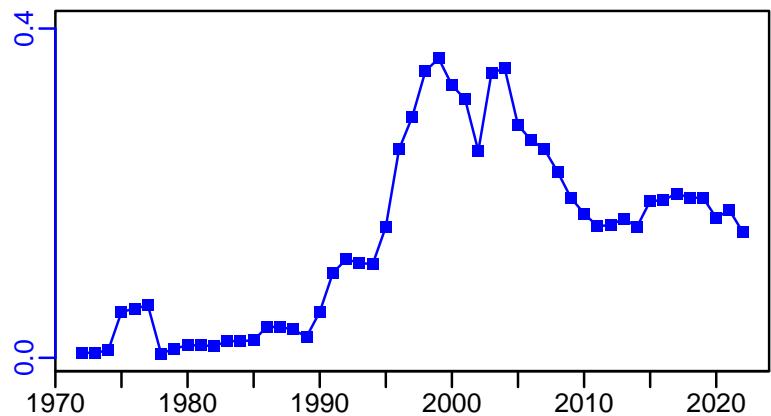
**TN \***



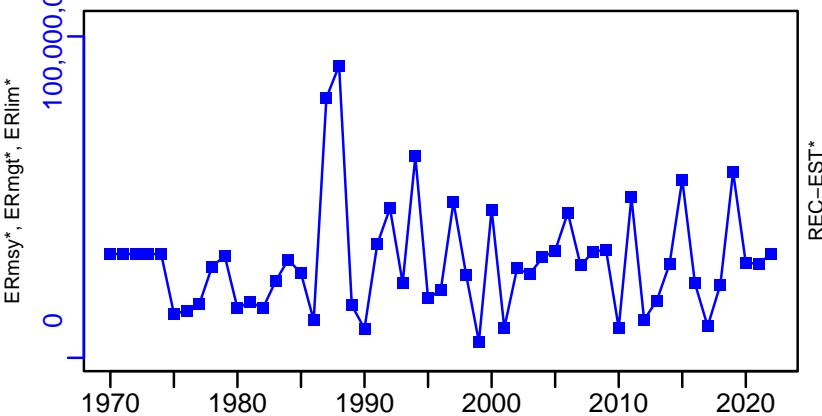
**F-1/yr (1970–2012–CORDUE)**



**ER-ratio (1970–2022–MCGREGOR)**



**R-E00 (1970–2022–MCGREGOR)**

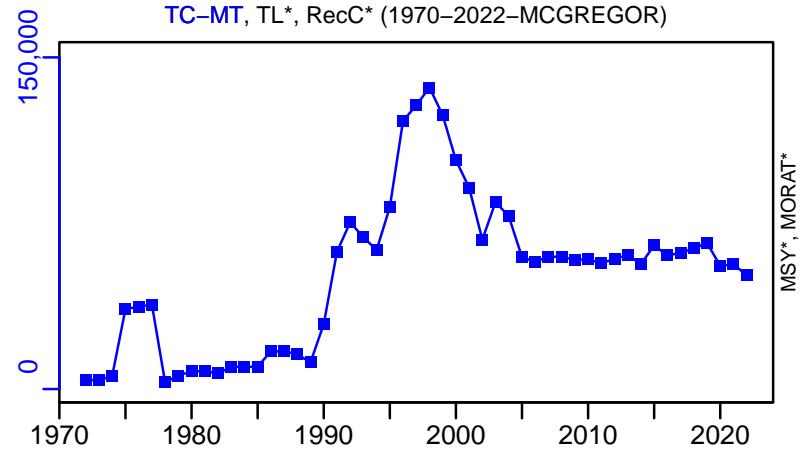


■ Listed time series	— Target BRP	— Rec-Est
- - - MSY-based BRP	··· Lim BRP	* No Data

Hoki Eastern New Zealand [HOKIENZ]

TC-MT, TL\*, RecC\* (1970–2022–MCGREGOR)

TAC\*, Cpair\*, Cadv\*



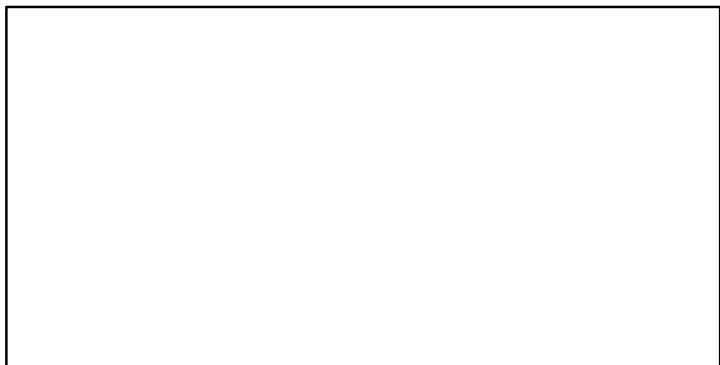
survB\*



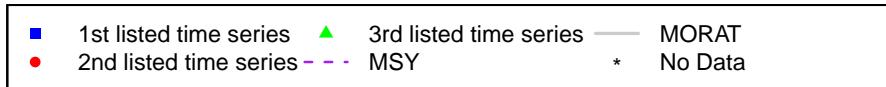
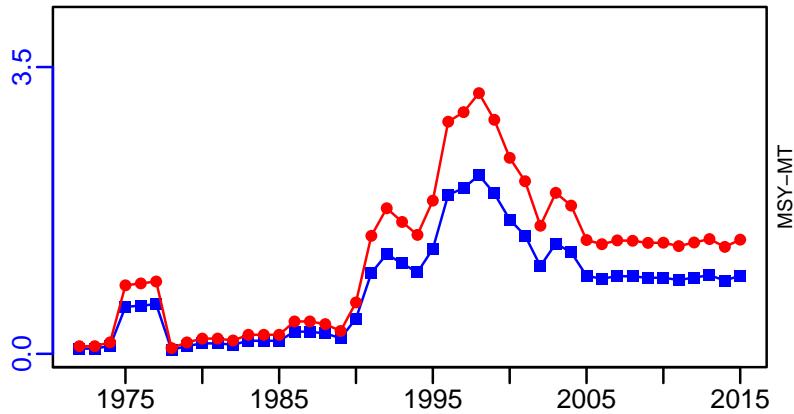
CPUE\*



EFFORT\*



TC-MT/MSY-MT, CdivMEANC-ratio, (1970–2015–FU)



## Hoki Western New Zealand [HOKIWNZ]

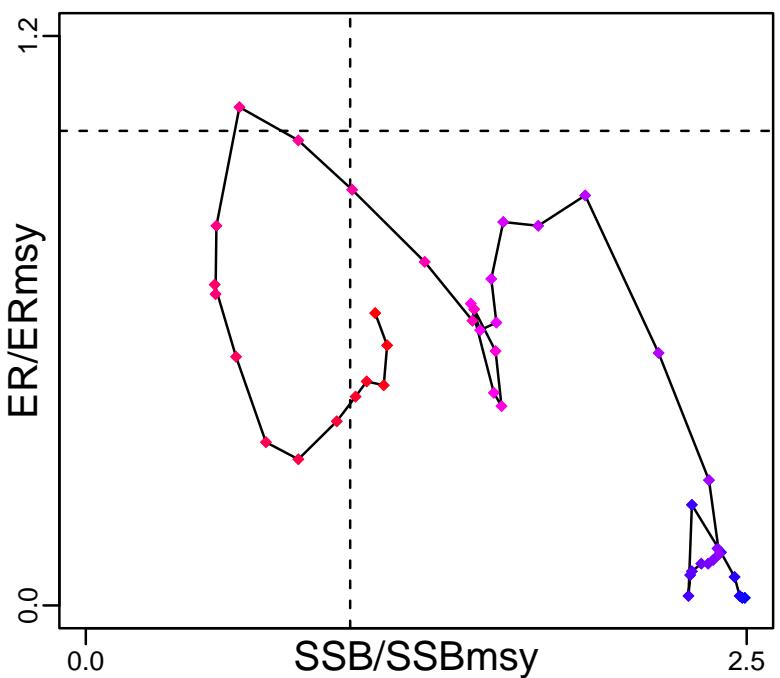
Metadata	
<b>Scientific Name</b>	Macruronus novaezelandiae
<b>Current Assess ID</b>	NIWA-HOKIWNZ-1970-2022-MCGREGOR
<b>Area</b>	Western New Zealand
<b>Management Authority</b>	Ministry of Fisheries, New Zealand national management
<b>Assessor</b>	National Institute of Water and Atmospheric Research
<b>Asmts in RAM</b>	2012, 2015, 2022, 2021

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	TBmsy-calc-MT	2015	479,200
<b>SSBmsy</b>	SSBmsy-MT	2022	489,156
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-ratio	2015	0.25
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2022	519,728
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	SSB0-MT	2022	1,222,890
<b>MSY</b>	MSY-MT	2015	119,800
<b>M</b>	M-1/yr	2015	0.29
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

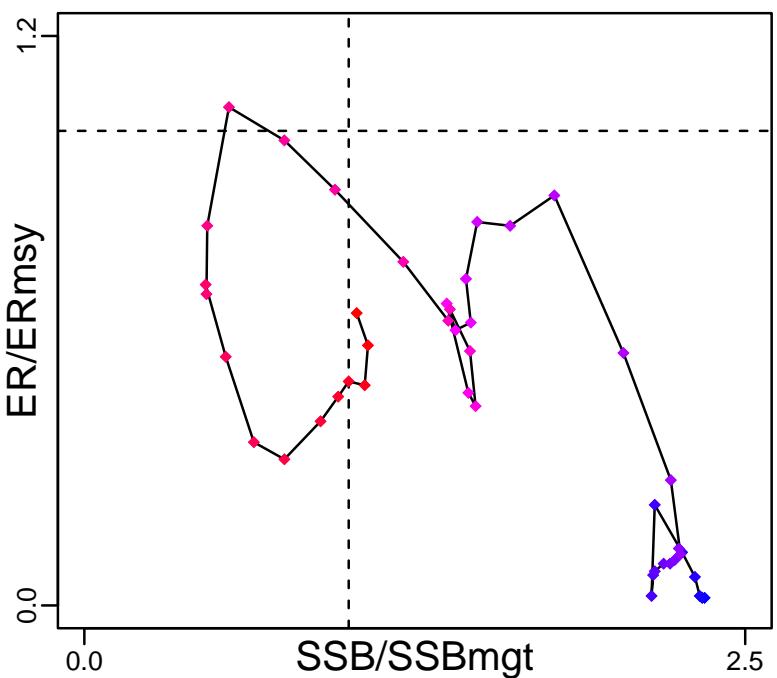
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	-	-	-	-	-	-
<b>SSB</b>	SSB-MT	2022	410,298	-	2+	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2022	20,653,700	-	-	
<b>F</b>	F-1/yr	2012	0.137	-	-	
<b>ER</b>	ER-ratio	2022	0.099	-	-	
<b>TC</b>	TC-MT	2022	40,500			
<b>TL</b>	-	-	-			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2022	0.839			
<b>F/Fmsy</b>	FdivFmsy-dimensionless	2012	0.547			
<b>ER/ERmsy</b>	ERdivERmsy-dimensionless	2015	0.616			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2022	0.789			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

Hoki Western New Zealand [HOKIWNZ]

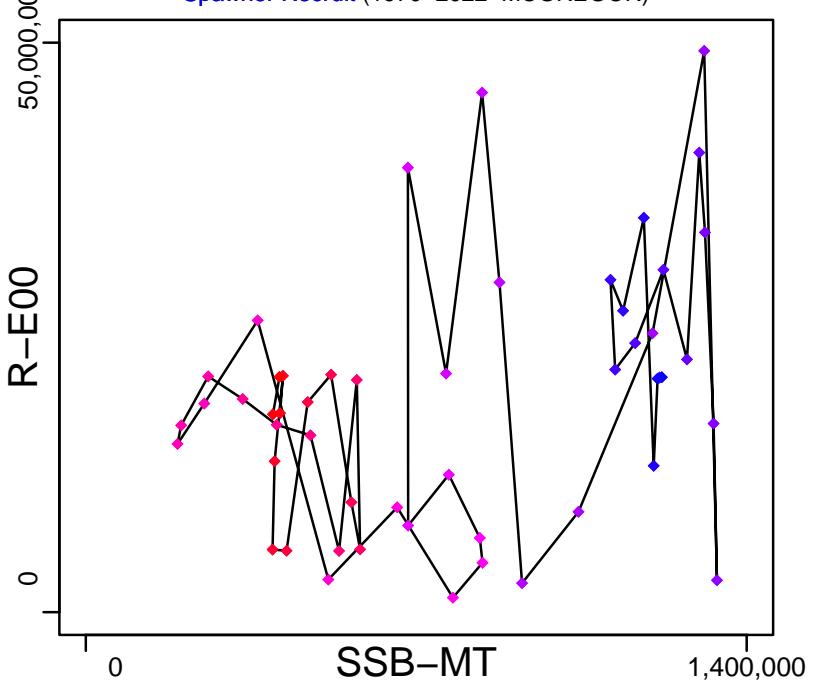
Kobe MSYpref (1970–2015–FU)



Kobe MGTpref (1970–2015–FU)



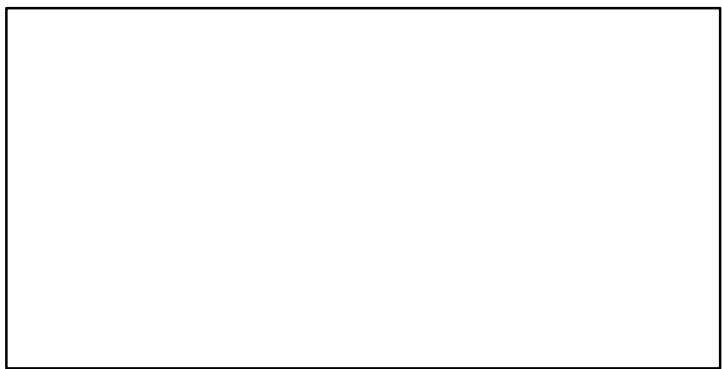
Spawner Recruit (1970–2022–MCGREGOR)



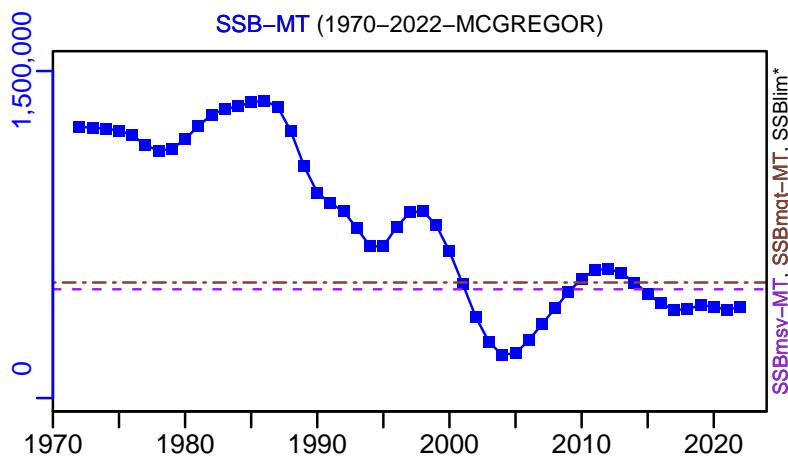
◆ Start Year ◆ End Year \* No Data

Hoki Western New Zealand [HOKIWNZ]

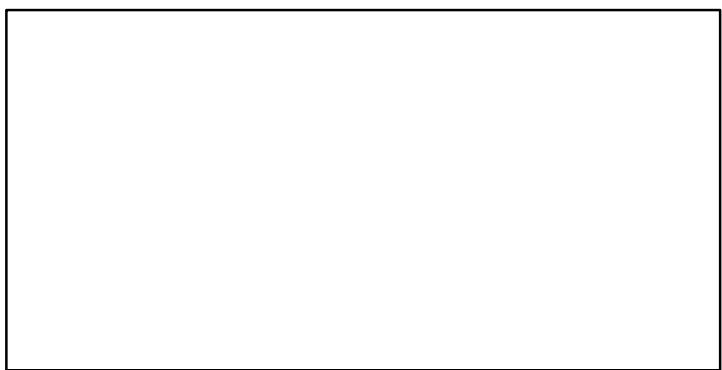
**TB\***



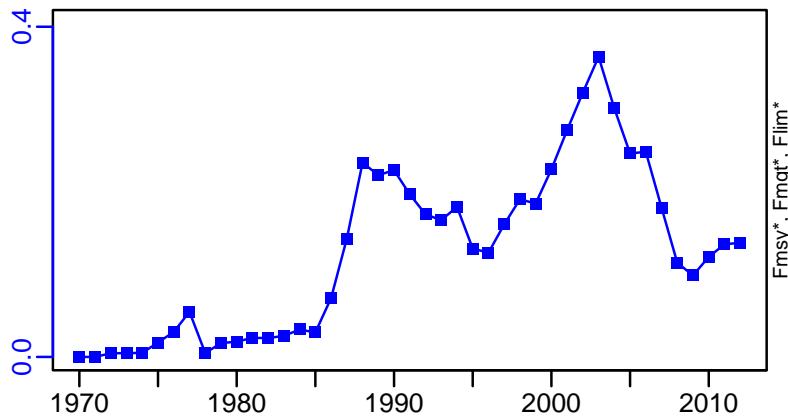
SSB-MT (1970–2022–MCGREGOR)



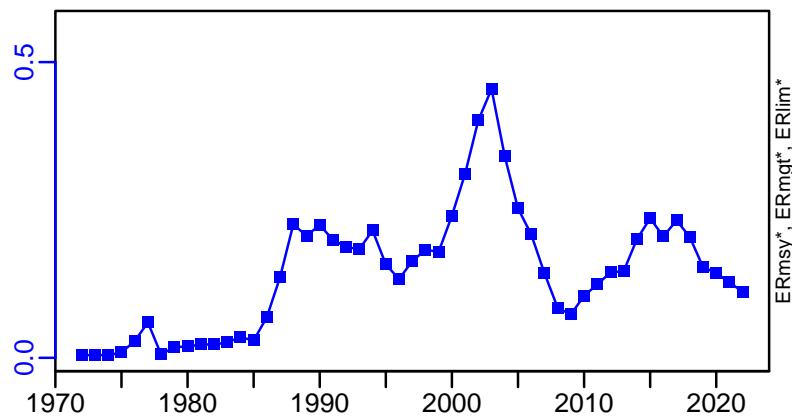
**TN \***



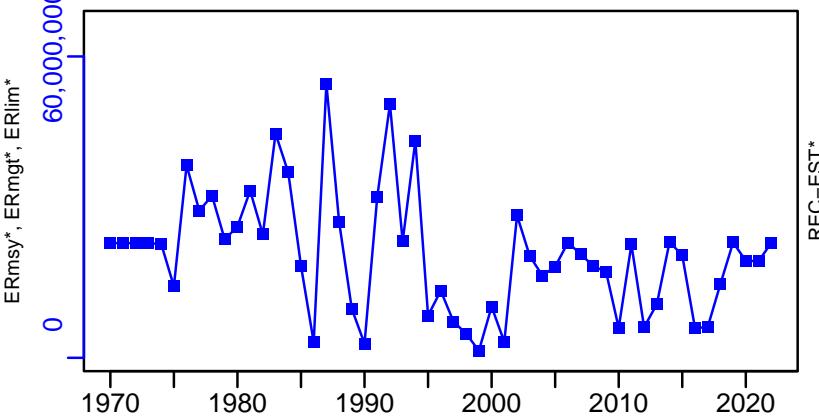
F-1/yr (1970–2012–CORDUE)



ER-ratio (1970–2022–MCGREGOR)



R-E00 (1970–2022–MCGREGOR)

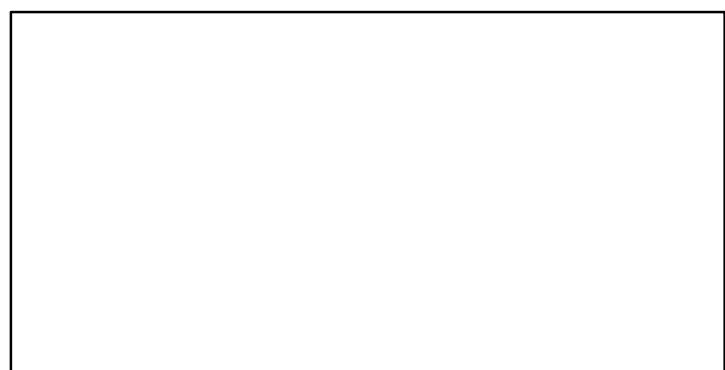
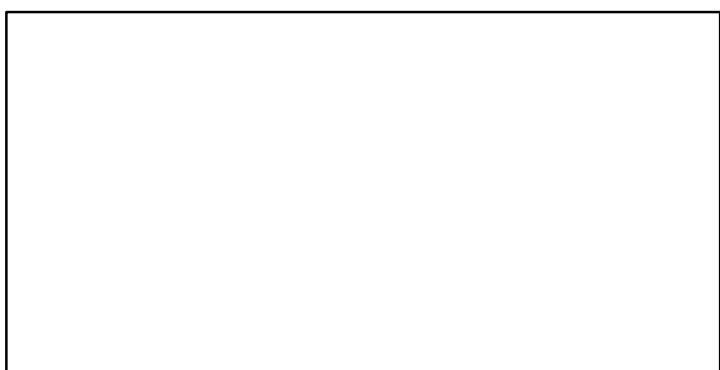
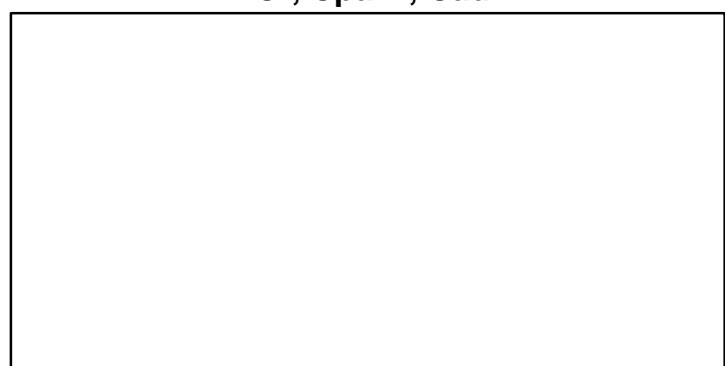
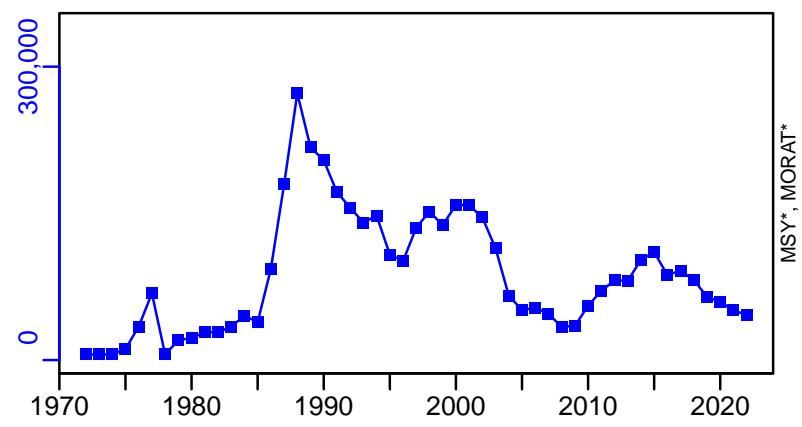


■ Listed time series	— Target BRP	— Rec-Est
- - - MSY-based BRP	--- Lim BRP	* No Data

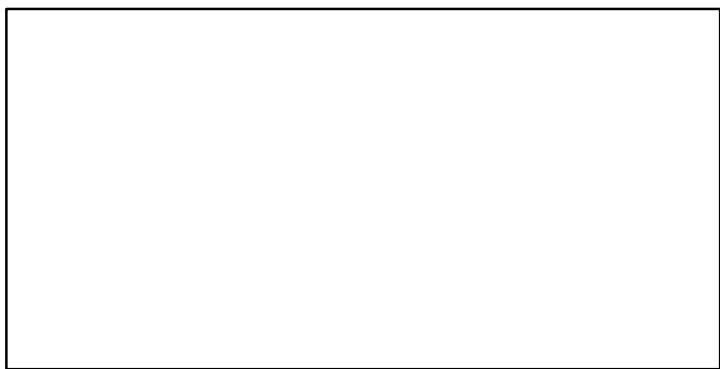
Hoki Western New Zealand [HOKIWNZ]

TC-MT, TL\*, RecC\* (1970–2022–MCGREGOR)

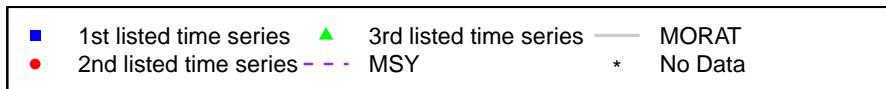
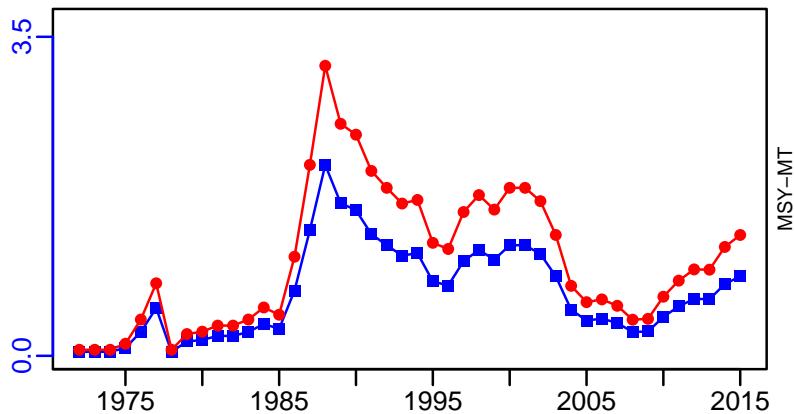
TAC\*, Cpair\*, Cadv\*



EFFORT\*



TC-MT/MSY-MT, CdivMEANC-ratio, (1970–2015–FU)



## Longfin codling Pacific Ocean [LCODLINGPAC]

<b>Metadata</b>	
<b>Scientific Name</b>	Laemonema longipes
<b>Current Assess ID</b>	FAFRFJ-LCODLINGPAC-1989-2013-JPNIMP2016
<b>Area</b>	Pacific Ocean
<b>Management Authority</b>	Fisheries Agency of Japan
<b>Assessor</b>	Fisheries Agency and Fisheries Research Agency of Japan
<b>Asmts in RAM</b>	2013

<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>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<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>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2013	16,300		
<b>TL</b>	-	-	-		
<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\***

◆ Start Year ♦ End Year \* No Data

**Longfin codling Pacific Ocean [LCODLINGPAC]**

**TB\***



**SSB\***



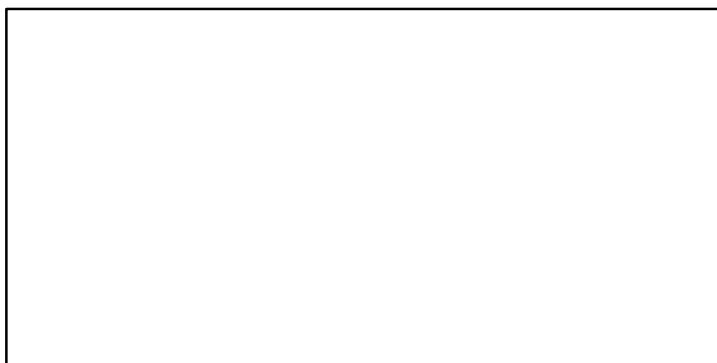
**TN \***



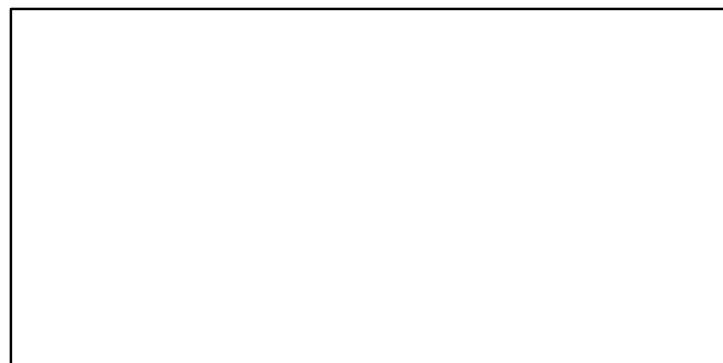
**F\***



**ER\***



**Recruits\***

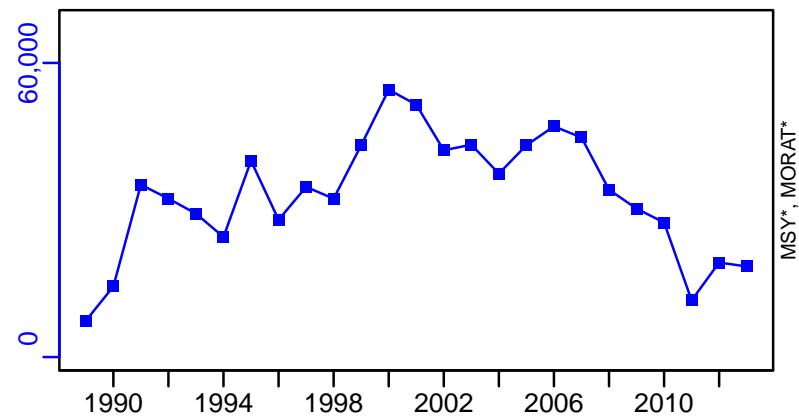


- |                      |                  |           |
|----------------------|------------------|-----------|
| ■ Listed time series | - - - Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP    | * No Data |

**Longfin codling Pacific Ocean [LCODLINGPAC]**

TC-MT, TL\*, RecC\* (1989–2013-JPNIMP2016)

**TAC\*, Cpair\*, Cadv\***



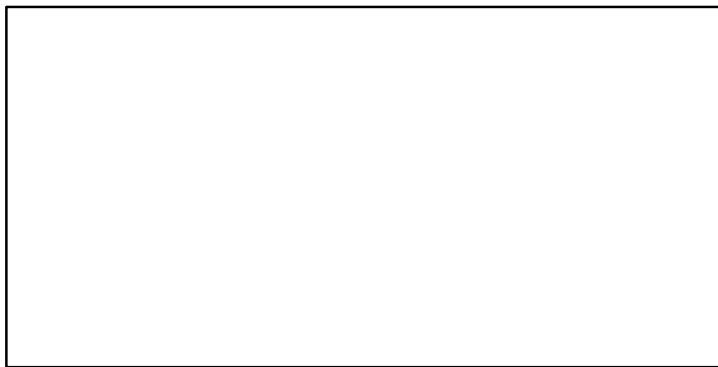
**survB\***



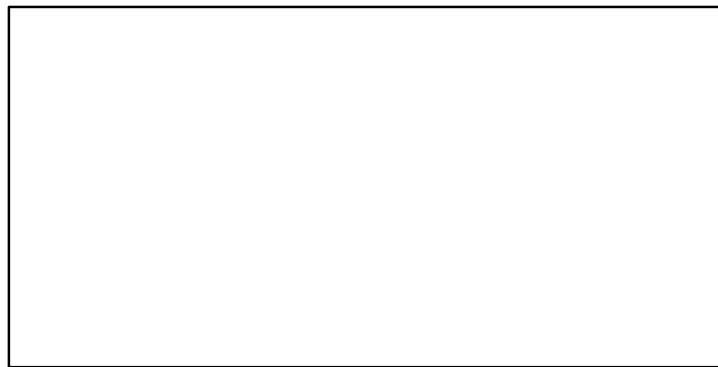
**CPUE\***



**EFFORT\***



**CdivMSY\***



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

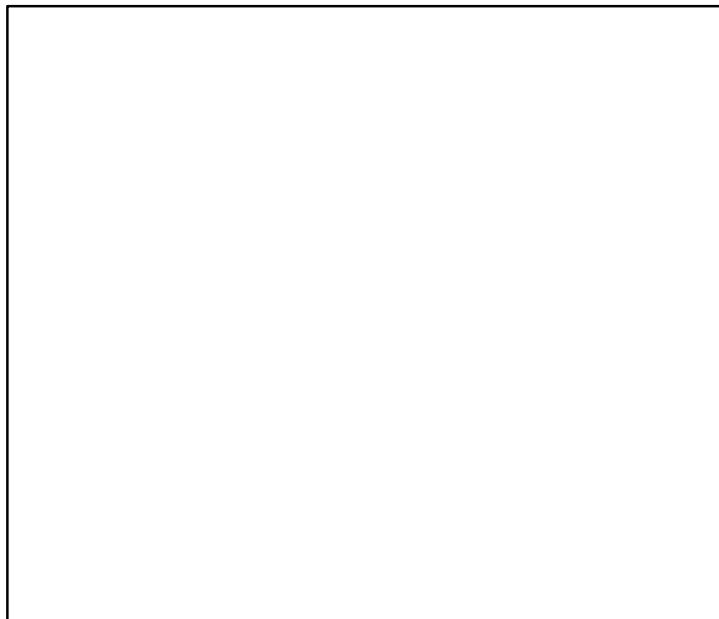
## Ling North-East Arctic [LINGI-II]

Metadata	
<b>Scientific Name</b>	Molva molva
<b>Current Assess ID</b>	WGDEEP-LINGI-II-1988-2020-ICESIMP2021-2
<b>Area</b>	North-East Arctic
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources
<b>Asmts in RAM</b>	2014, 2016, 2018, 2020

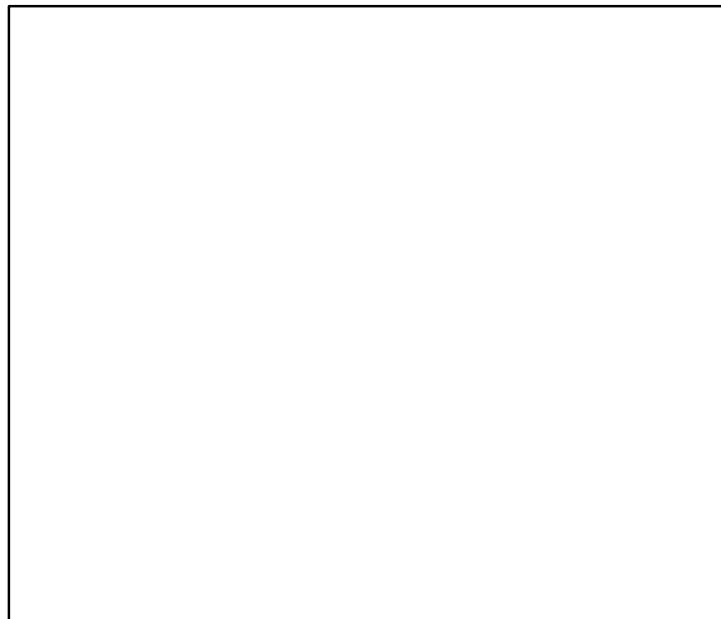
Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-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

Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	-	-	-	-	-
<b>SSB</b>	SSB-index	2014	99	Both	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2020	9560		
<b>TL</b>	TL-MT	2018	11,613		
<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>	-	-	-		

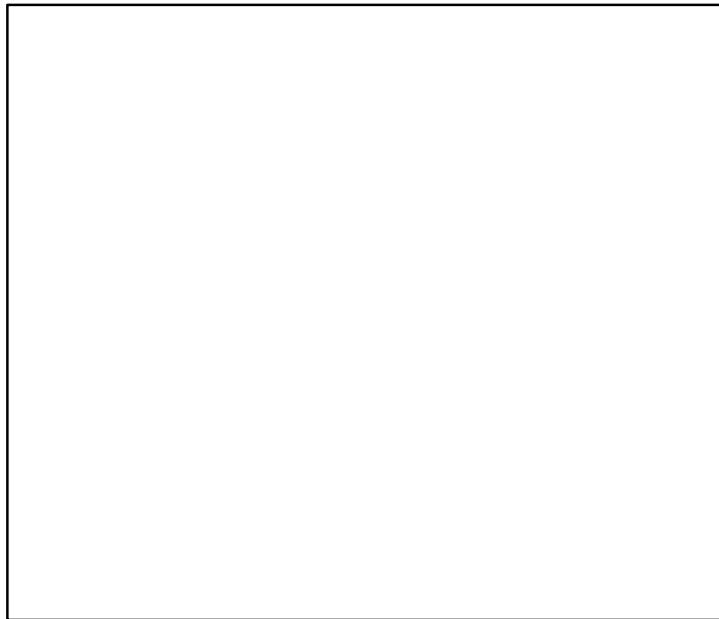
**Kobe MSY\***



**Kobe MGT\***



**Spawner Recruit\***



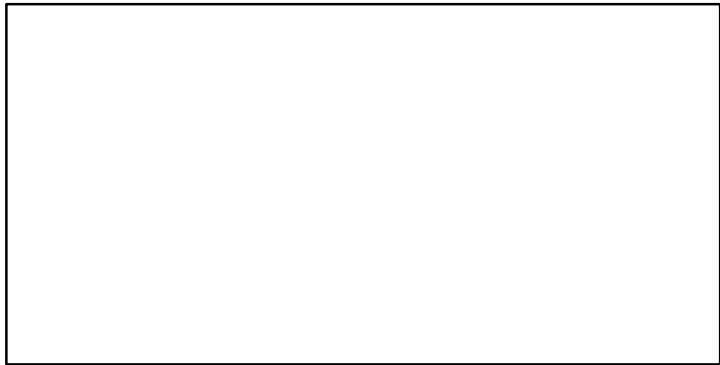
**Production\***



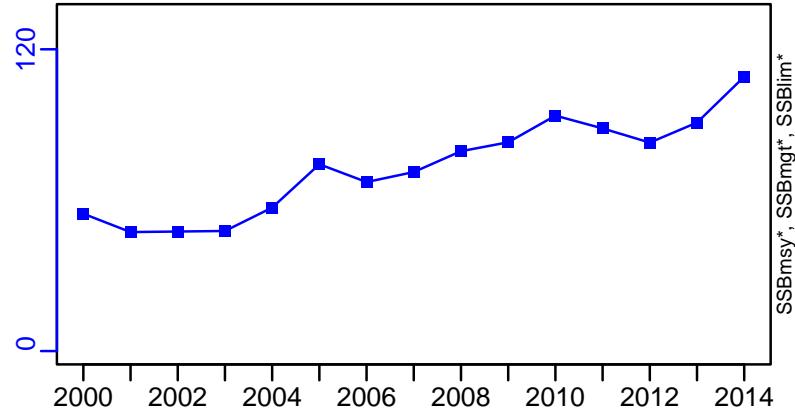
◆ Start Year ♦ End Year \* No Data

Ling North-East Arctic [LINGI-II]

**TB\***



SSB-index (1988–2014–ICESIMP2018)



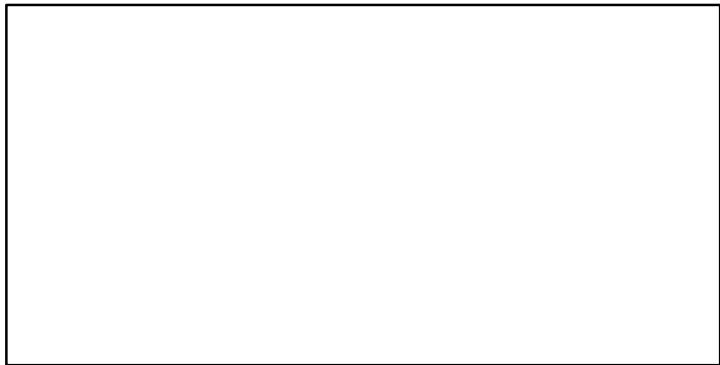
**TN \***



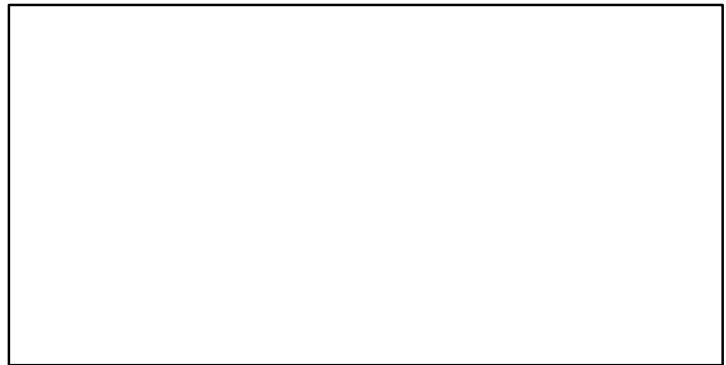
**F\***



**ER\***



**Recruits\***

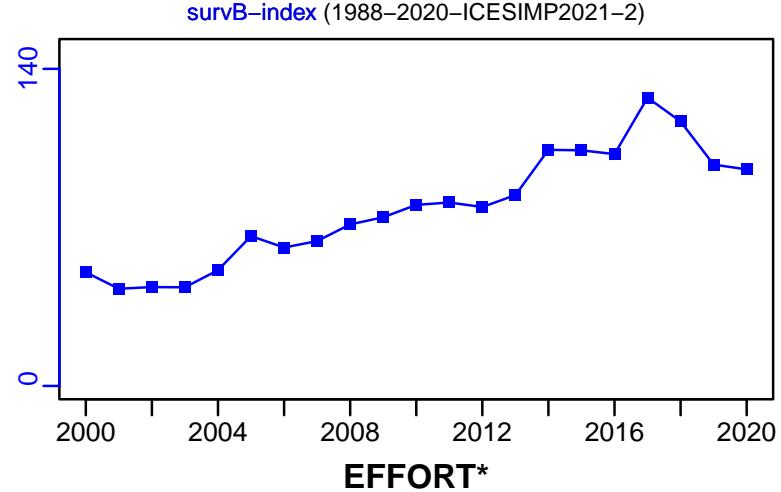
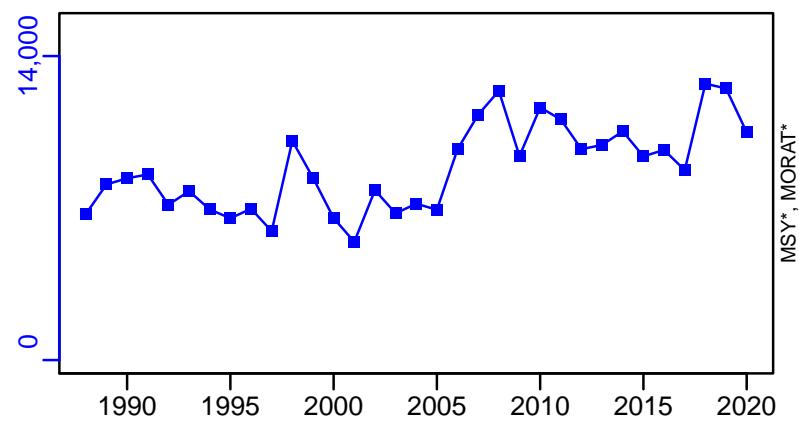


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| — MSY-based BRP      | ··· Lim BRP  | * No Data |

Ling North-East Arctic [LINGI-II]

TC-MT, TL\*, RecC\* (1988–2020–ICESIMP2021–2)

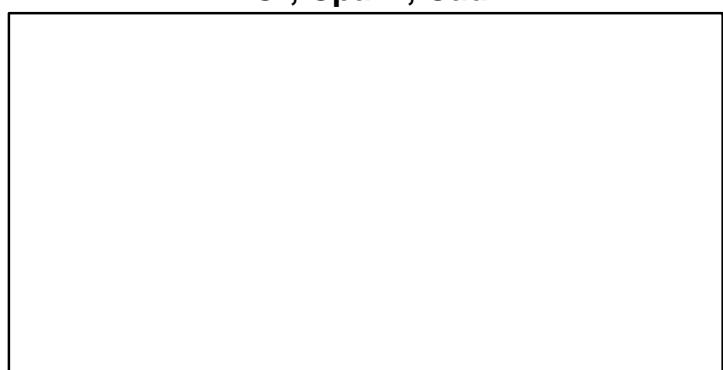
TAC\*, Cpair\*, Cadv\*



EFFORT\*

CPUE\*

CdivMSY\*



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

## Ling Northeast Atlantic [LINGNEATL]

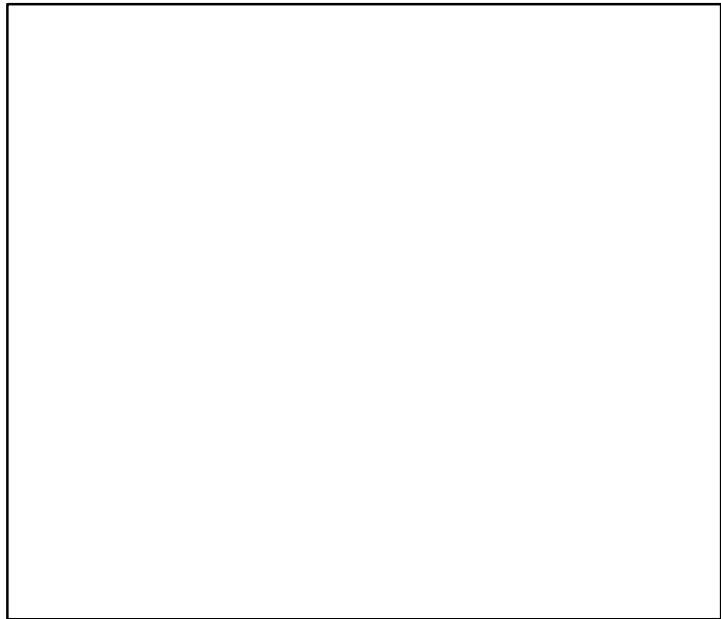
<b>Metadata</b>	
<b>Scientific Name</b>	Molva molva
<b>Current Assess ID</b>	WGDEEP-LINGNEATL-1988-2020-ICESIMP2021-2
<b>Area</b>	Northeast Atlantic
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources
<b>Asmts in RAM</b>	2014, 2016, 2018, 2020

<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>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

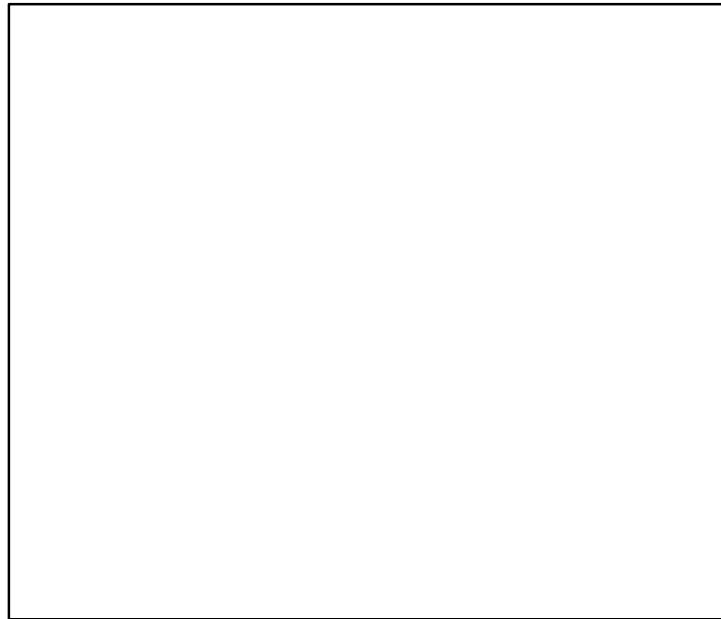
<b>Time Series</b>					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	-	-	-	-	-
<b>SSB</b>	SSB-index	2014	144	Both	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	-	-	-		
<b>TL</b>	TL-MT	2020	15,300		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

Ling Northeast Atlantic [LINGNEATL]

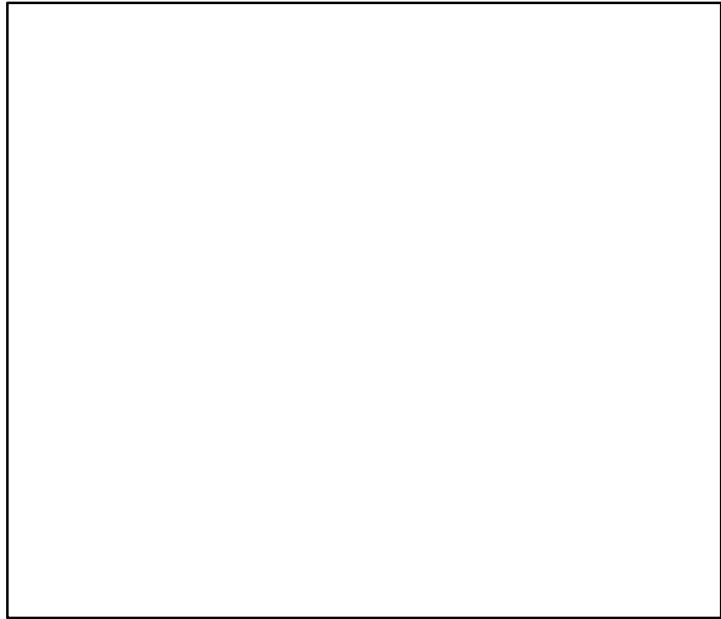
**Kobe MSY\***



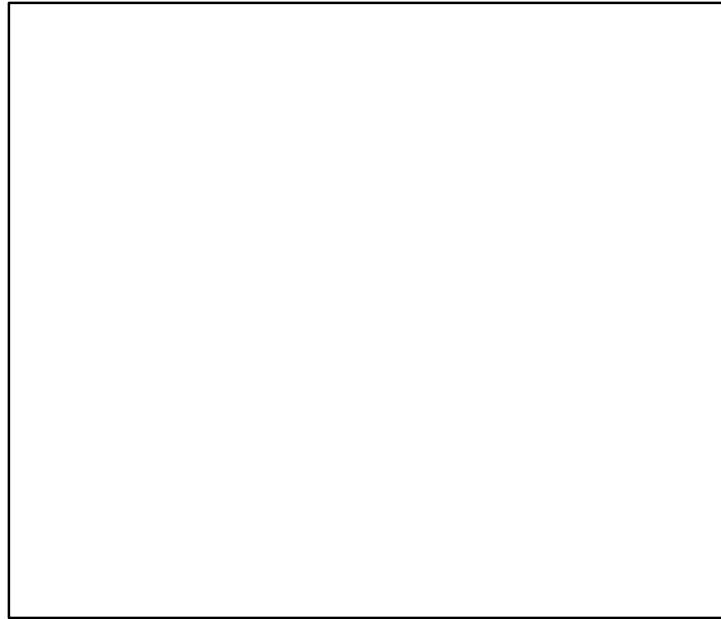
**Kobe MGT\***



**Spawner Recruit\***



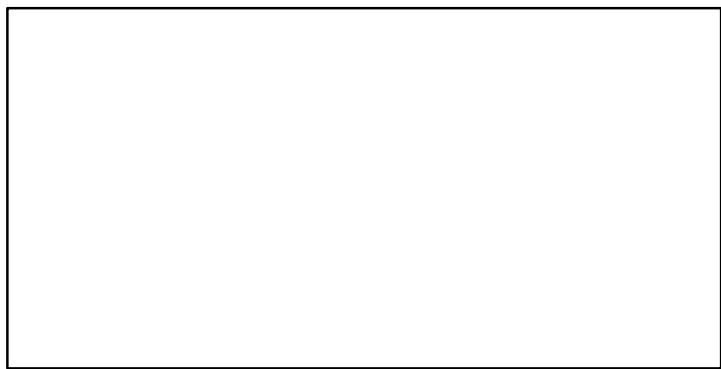
**Production\***



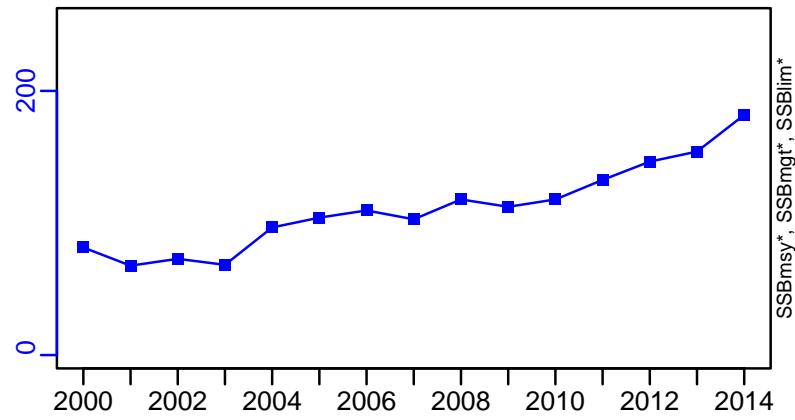
◆ Start Year ♦ End Year \* No Data

Ling Northeast Atlantic [LINGNEATL]

**TB\***



SSB-index (1988–2014–ICESIMP2018)



SSBm<sup>\*</sup>, SSBmgt<sup>\*</sup>, SSBlim<sup>\*</sup>

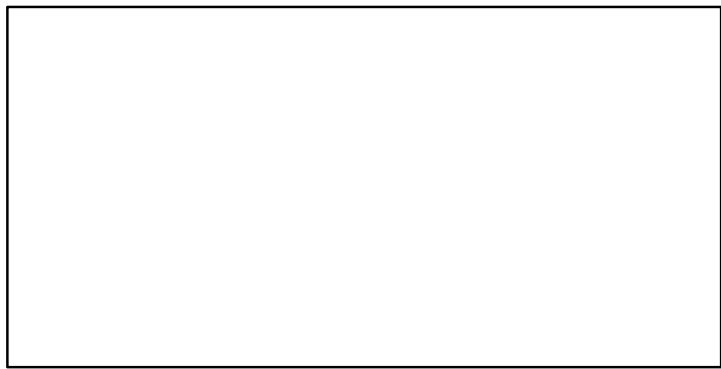
**TN \***



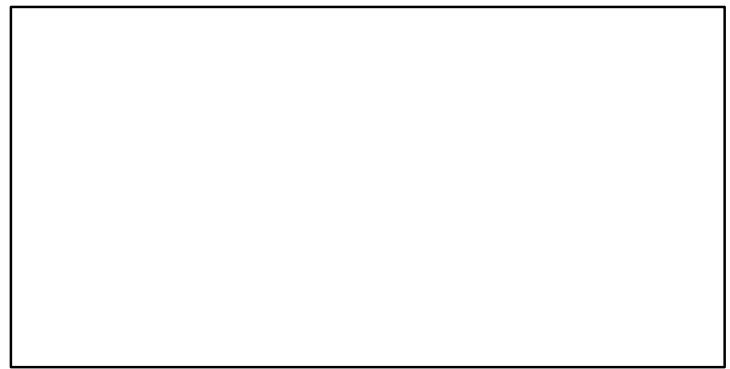
**F\***



**ER\***



**Recruits\***

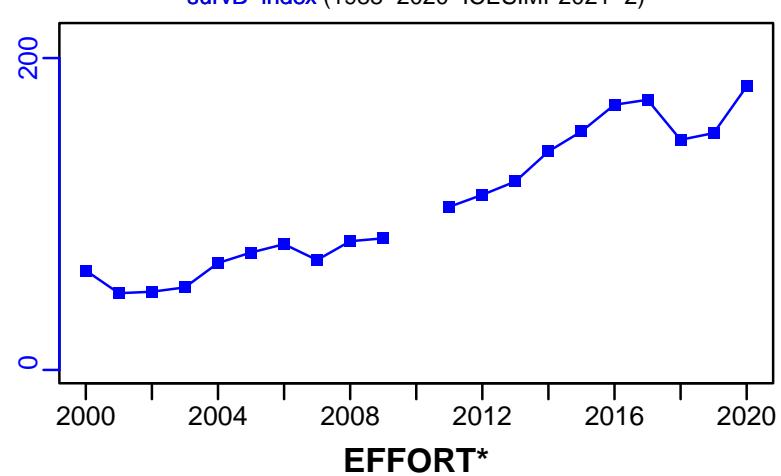
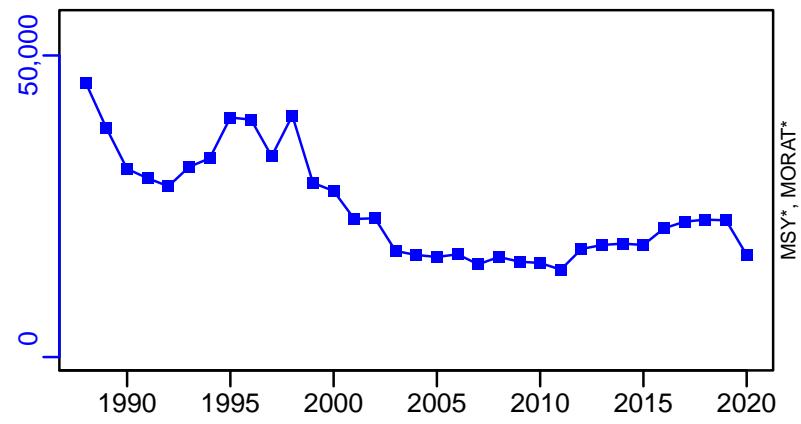


- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>■ Listed time series</li> <li>— Target BRP</li> <li>— MSY-based BRP</li> <li>— Lim BRP</li> </ul> | <ul style="list-style-type: none"> <li>— Rec-Est</li> <li>* No Data</li> </ul> |
|--|--|

Ling Northeast Atlantic [LINGNEATL]

TL-MT, TC\*, RecC\* (1988–2020–ICESIMP2021-2)

TAC\*, Cpair\*, Cadv\*



CPUE\*



CdivMSY\*



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

## Ling Iceland Grounds [LINGVa]

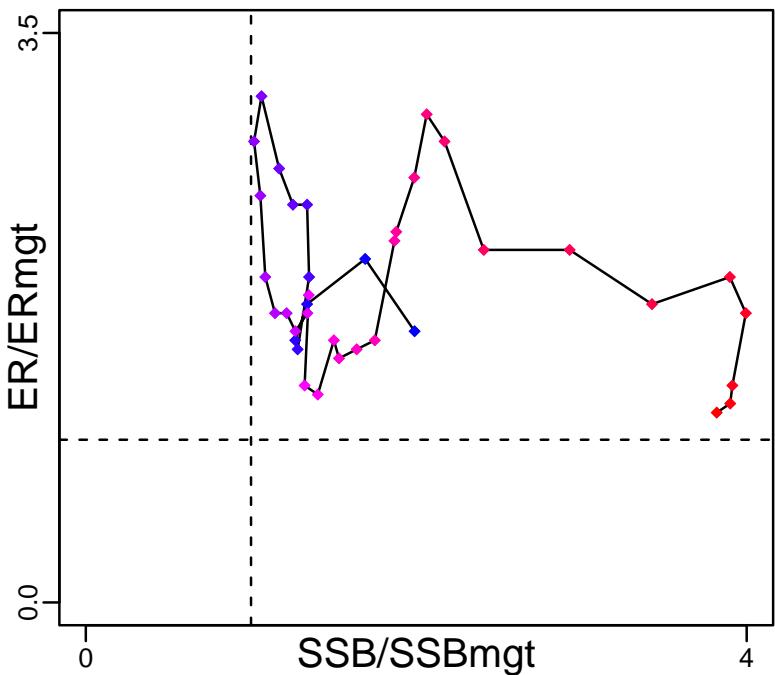
Metadata	
<b>Scientific Name</b>	Molva molva
<b>Current Assess ID</b>	WGDEEP-LINGVa-1982-2021-ICESIMP2021-2
<b>Area</b>	Iceland Grounds
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources
<b>Asmts in RAM</b>	2014, 2017, 2018, 2019, 2015, 2016, 2020, 2021

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2016	0.24
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2019	9930
<b>Fmgt</b>	Fmgt-1/yr	2016	0.24
<b>ERmgt</b>	ERmgt-ratio	2019	0.18
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2021	7090
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

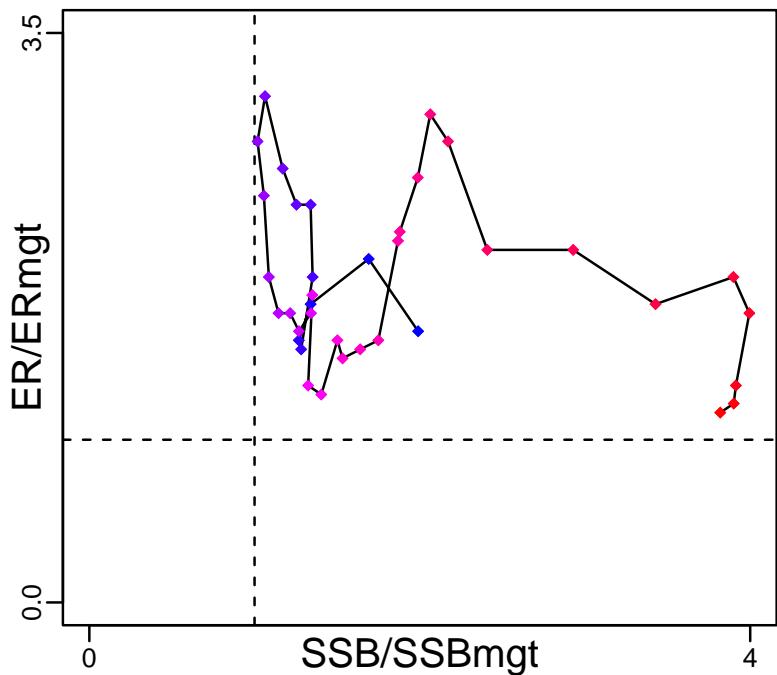
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2016	56,100	Both	-	
<b>SSB</b>	SSB-MT	2021	25,700	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2021	3830	-	3	
<b>F</b>	F-1/yr	2016	0.28	-	-	
<b>ER</b>	ER-ratio	2021	0.264	-	-	
<b>TC</b>	TC-MT	2021	7060			
<b>TL</b>	TL-MT	2021	7060			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2016	1.167			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2019	3.671			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2016	1.167			
<b>ER/ERmgt</b>	-	-	-			

### Ling Iceland Grounds [LINGVa]

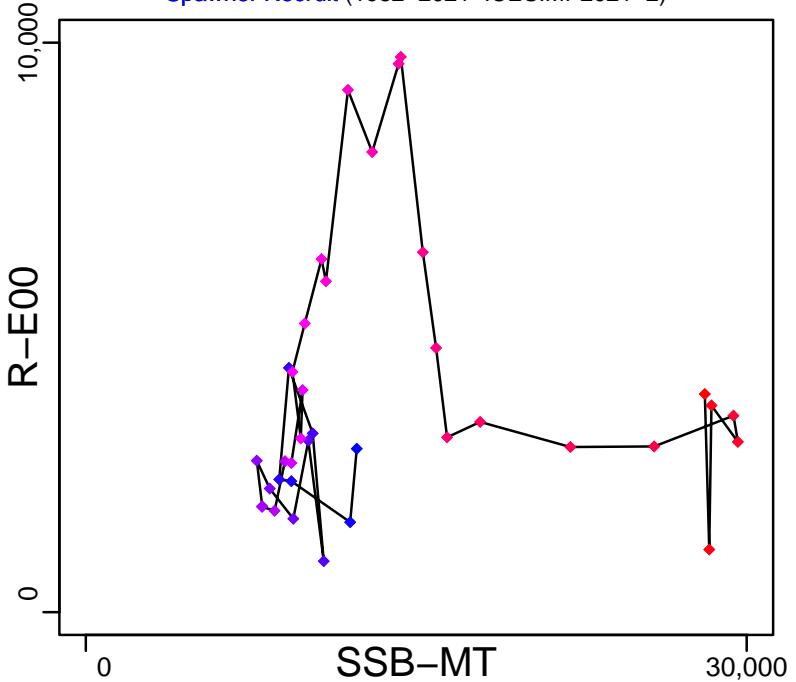
Kobe MSYpref (1979–2019–ICESIMP2021)



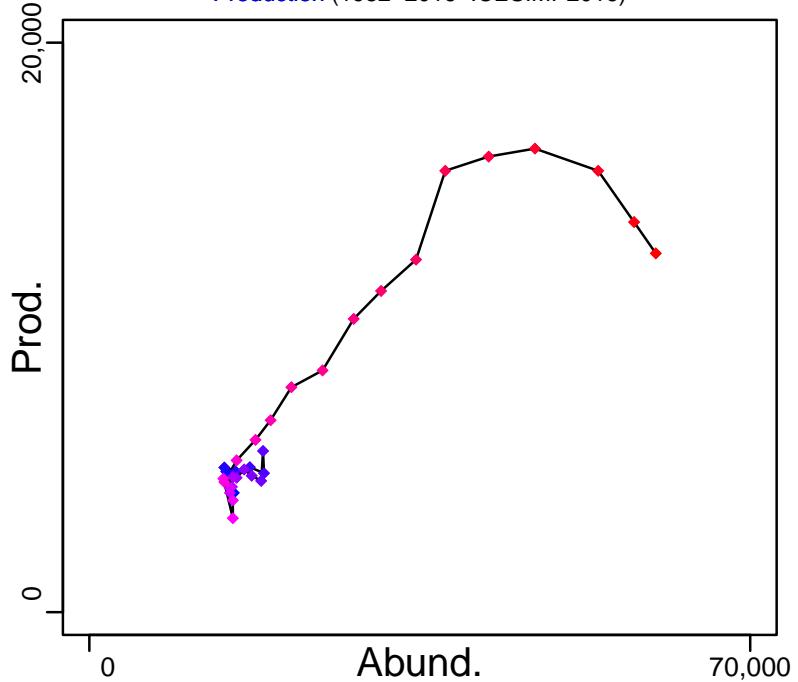
Kobe MGTpref (1979–2019–ICESIMP2021)



Spawner Recruit (1982–2021–ICESIMP2021-2)



Production (1982–2016–ICESIMP2016)

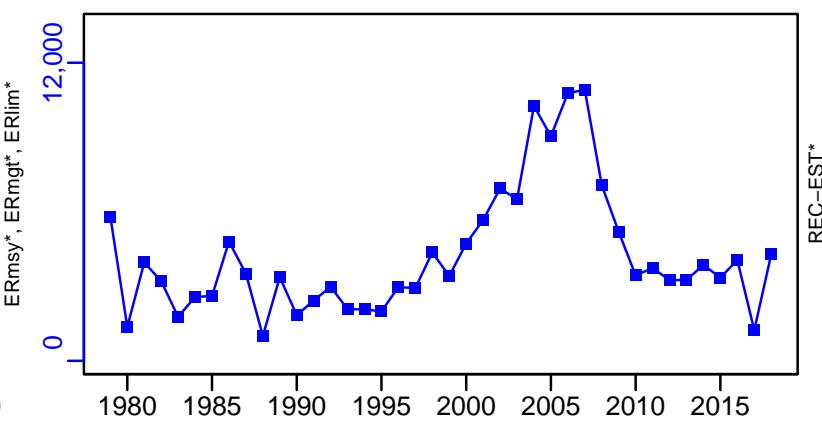
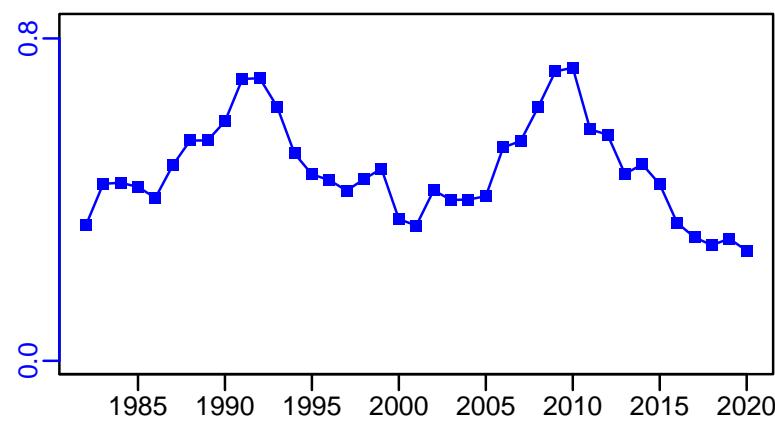
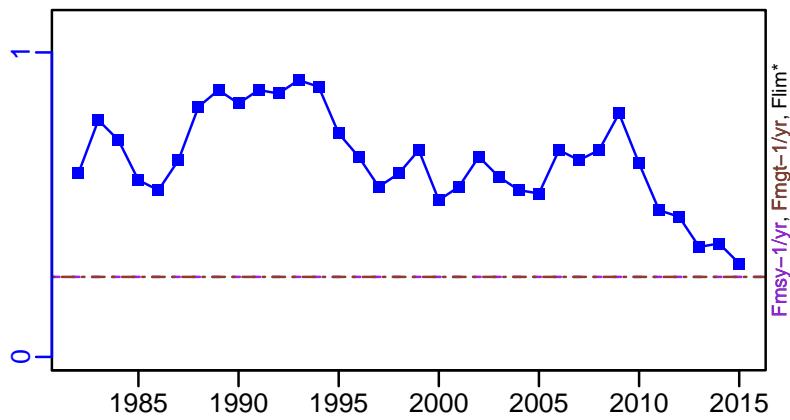
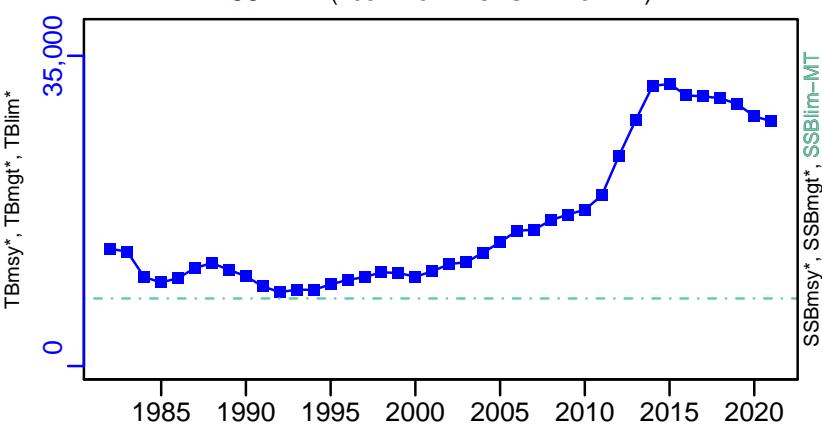
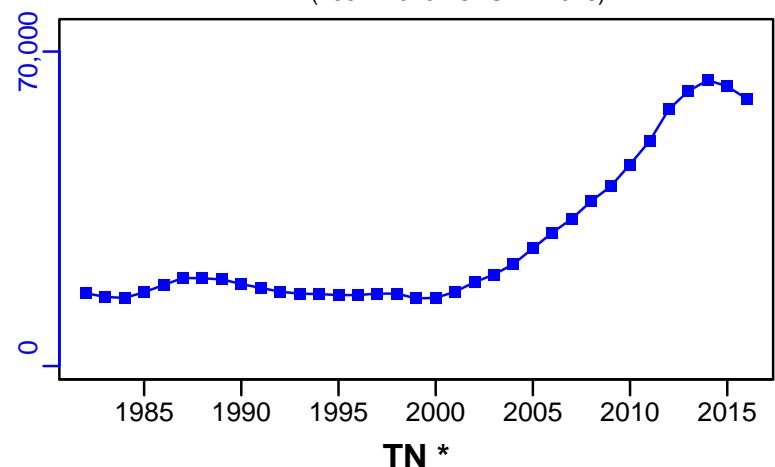


◆ Start Year ◆ End Year \* No Data

### Ling Iceland Grounds [LINGVa]

TB-MT (1982–2016–ICESIMP2016)

SSB-MT (1982–2021–ICESIMP2021–2)

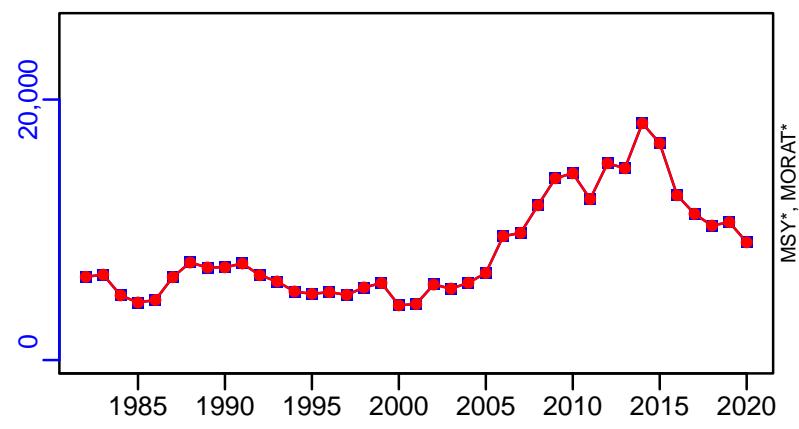


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	- - Lim BRP	* No Data

Ling Iceland Grounds [LINGVa]

TC-MT, TL-MT, RecC\* (1982–2021–ICESIMP2021–2)

TAC\*, Cpair\*, Cadv\*



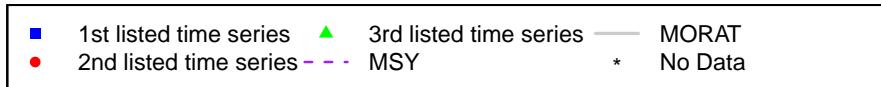
MSY\*, MORAT\*

survB\*

CPUE\*

EFFORT\*

CdivMSY\*



## Ling Faroe Grounds [LINGVb]

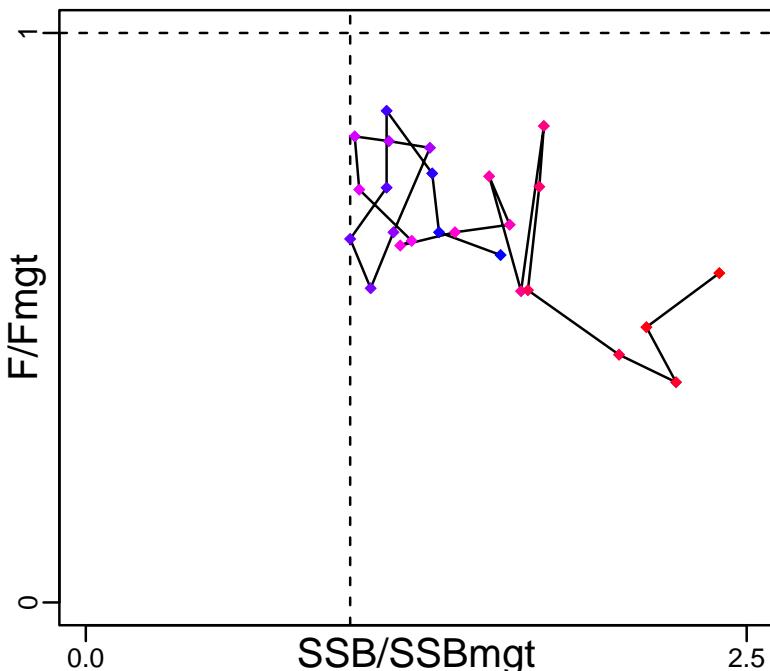
Metadata	
<b>Scientific Name</b>	Molva molva
<b>Current Assess ID</b>	WGDEEP-LINGVb-1988-2021-ICESIMP2021-2
<b>Area</b>	Faroe Grounds
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources
<b>Asmts in RAM</b>	2014, 2016, 2018, 2021

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	2021	11,600
<b>Fmgt</b>	Fmgt-1/yr	2021	0.6
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2021	9340
<b>Flim</b>	Flim-1/yr	2021	0.85
<b>ERlim</b>	-	-	-

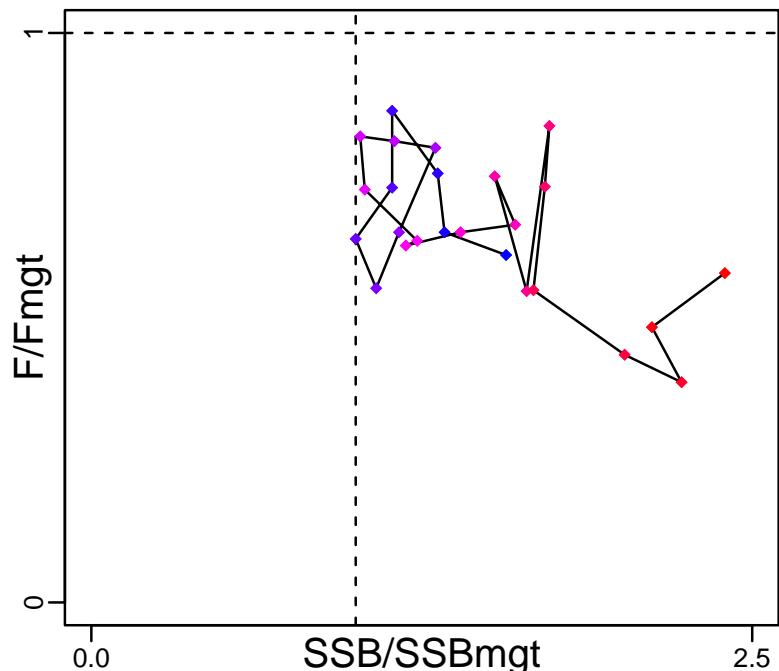
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	-	-	-	-	-	
<b>SSB</b>	SSB-MT	2021	27,800	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2021	2940	-	3	
<b>F</b>	F-1/yr	2021	0.347	-	-	
<b>ER</b>	-	-	-	-	-	
<b>TC</b>	-	-	-			
<b>TL</b>	TL-MT	2021	9430			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	-	-	-			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2021	2.397			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2021	0.578			
<b>ER/ERmgt</b>	-	-	-			

Ling Faroe Grounds [LINGVb]

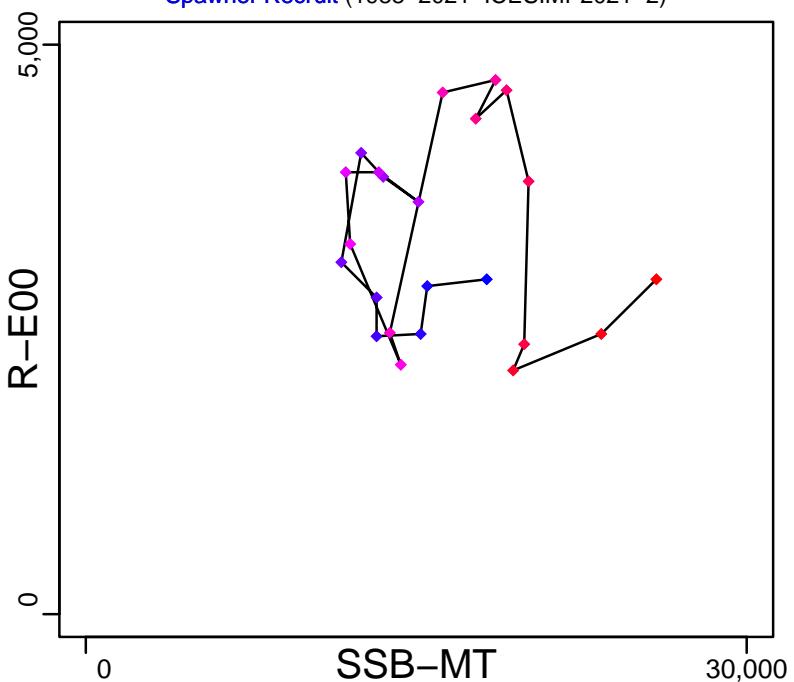
Kobe MSYpref (1988–2021–ICESIMP2021–2)



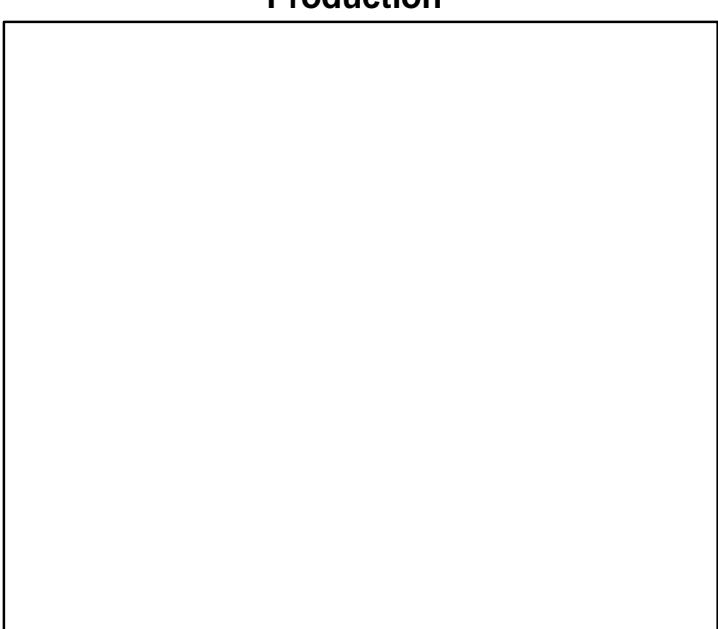
Kobe MGTpref (1988–2021–ICESIMP2021–2)



Spawner Recruit (1988–2021–ICESIMP2021–2)



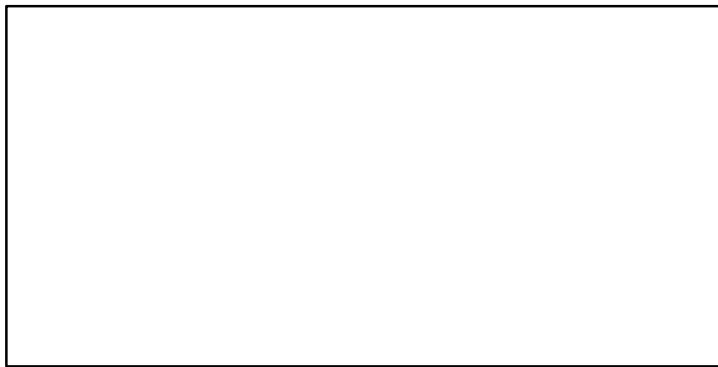
Production\*



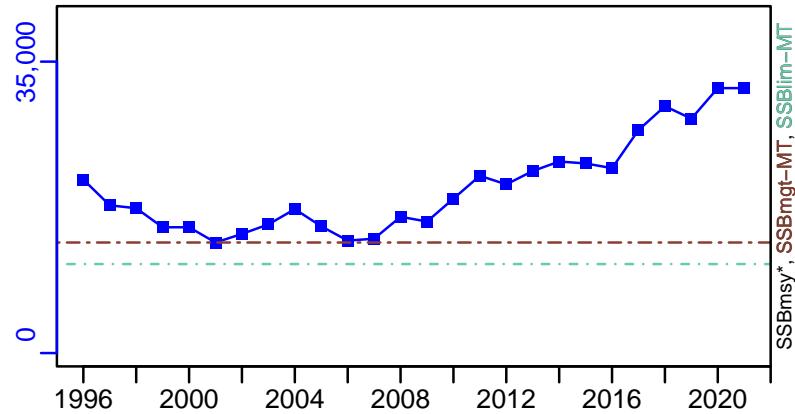
◆ Start Year	◆ End Year	*	No Data
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Ling Faroe Grounds [LINGVb]

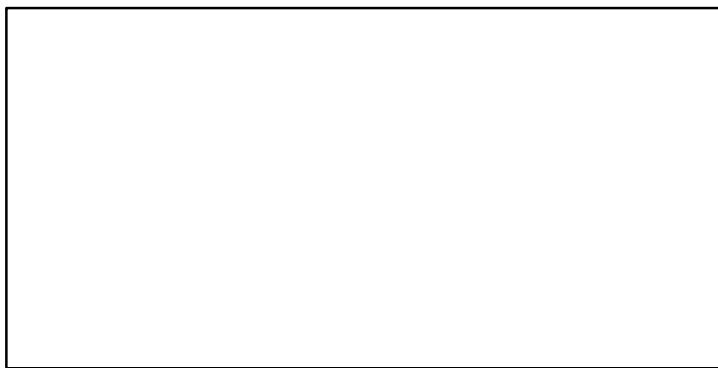
**TB\***



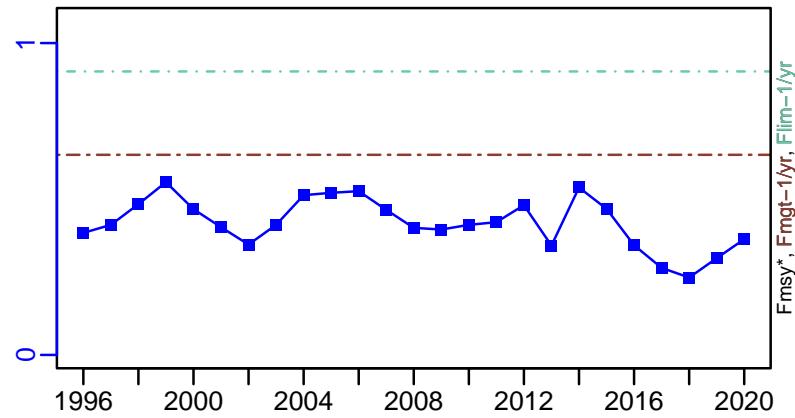
**SSB-MT (1988–2021–ICESIMP2021–2)**



**TN \***



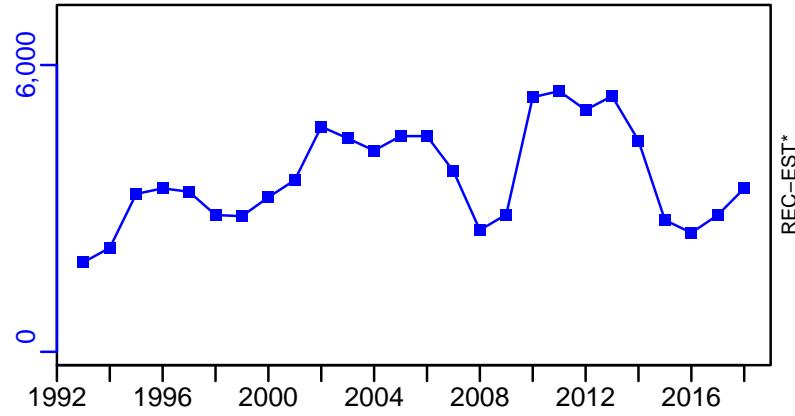
**F-1/yr (1988–2021–ICESIMP2021–2)**



**ER\***



**R-E00 (1988–2021–ICESIMP2021–2)**

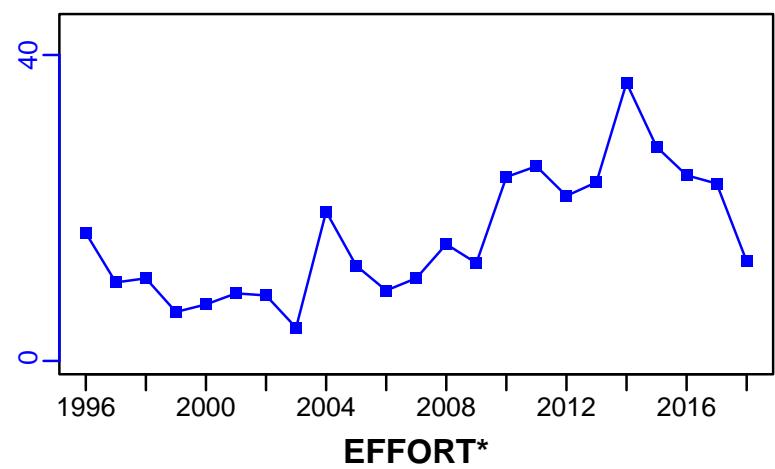
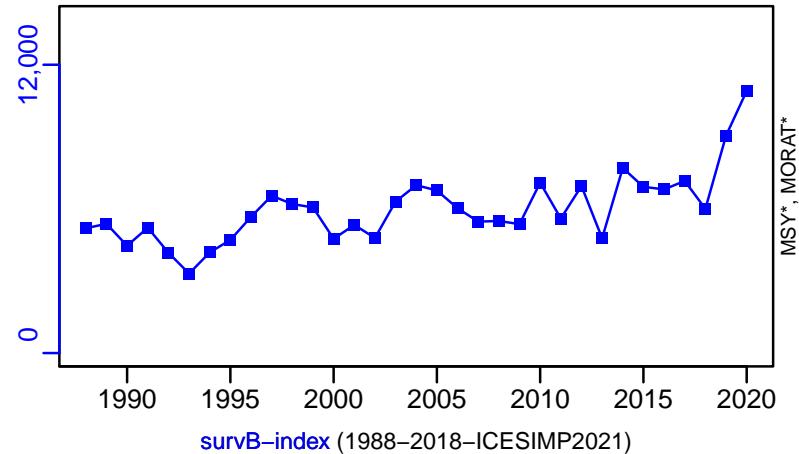


- Listed time series    - - - Target BRP    — Rec-Est
- - MSY-based BRP    - - Lim BRP    \* No Data

### Ling Faroe Grounds [LINGVb]

TL-MT, TC\*, RecC\* (1988–2021–ICESIMP2021–2)

TAC\*, Cpair\*, Cadv\*



EFFORT\*

CPUE\*

CdivMSY\*

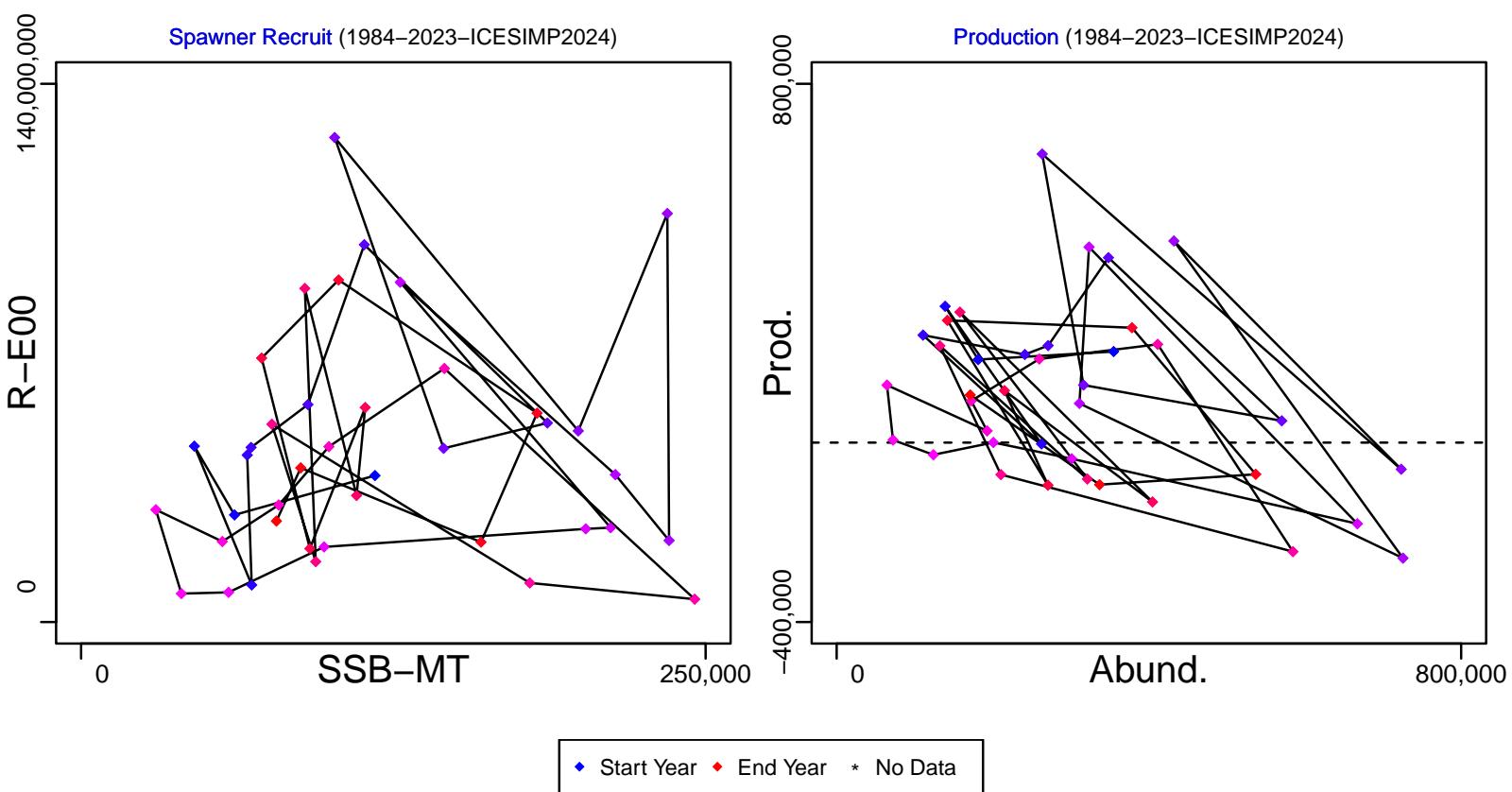
- |                          |                          |           |
|--------------------------|--------------------------|-----------|
| ■ 1st listed time series | ▲ 3rd listed time series | — MORAT   |
| ● 2nd listed time series | - - - MSY                | * No Data |

## Norway pout ICES 3a-4 [NPOUTIIla-IV]

Metadata	
<b>Scientific Name</b>	Trisopterus esmarkii
<b>Current Assess ID</b>	WGNSSK-NPOUTIIla-IV-1984-2023-ICESIMP2024
<b>Area</b>	ICES 3a-4
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak
<b>Asmts in RAM</b>	2011, 2013, 2014, 2017, 2019, 2020, 2021, 2023

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	2017	65,000
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2023	42,573
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

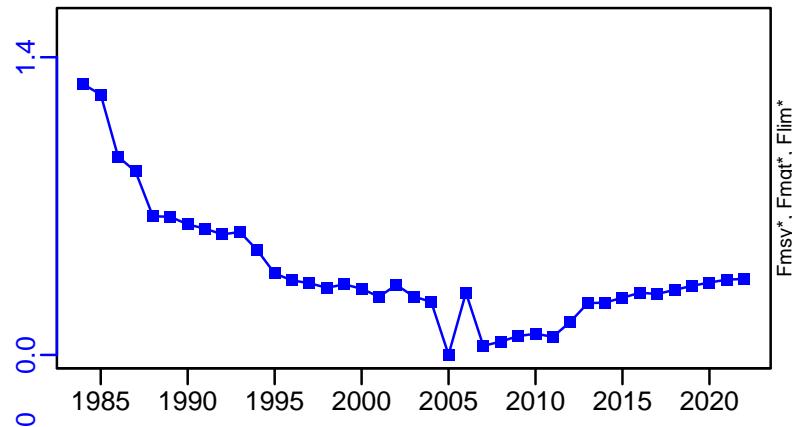
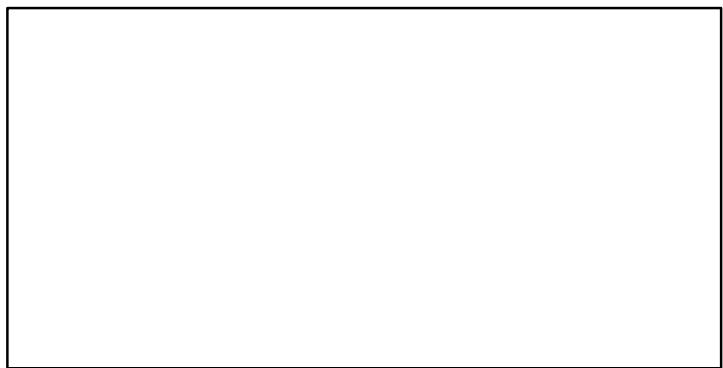
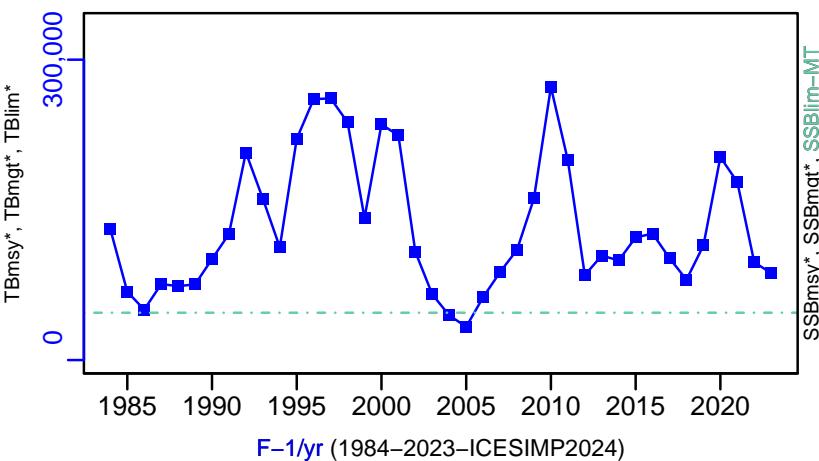
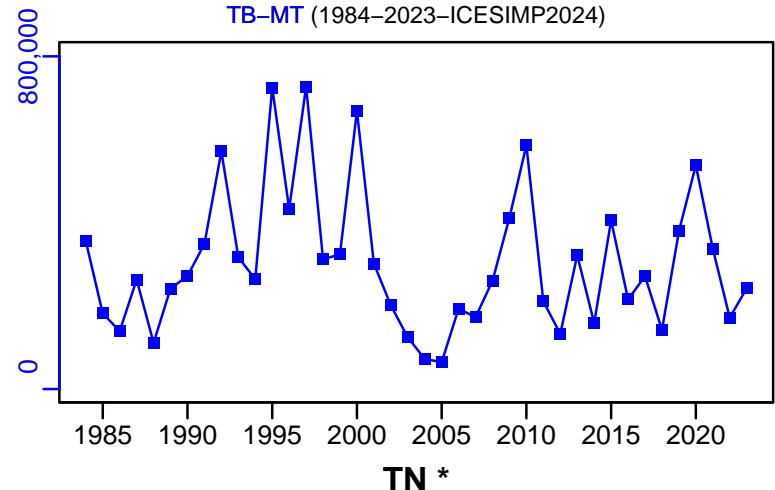
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2023	241,655	-	-	
<b>SSB</b>	SSB-MT	2023	78,191	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2023	26,260,000	-	0	
<b>F</b>	F-1/yr	2023	0.319	-	1 to 2	
<b>ER</b>	ER-calc-ratio	2023	0.066	-	-	
<b>TC</b>	TC-MT	2017	30,100			
<b>TL</b>	TL-MT	2023	16,046			
<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	2017	2.338			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

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

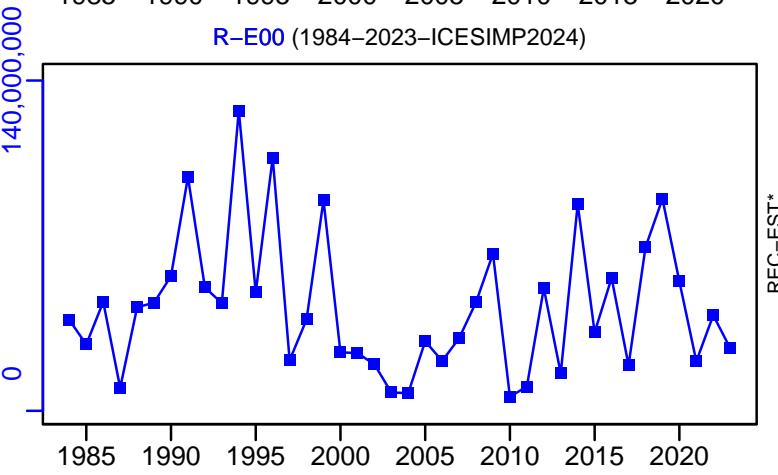
### Norway pout ICES 3a–4 [NPOUTIIIa–IV]

TB-MT (1984–2023–ICESIMP2024)

SSB-MT (1984–2023–ICESIMP2024)



ER-calc-ratio (1984–2023–ICESIMP2024)

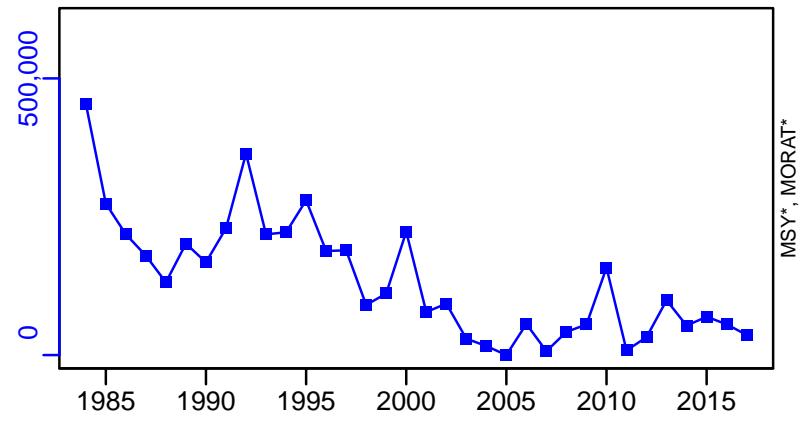


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	- - Lim BRP	* No Data

Norway pout ICES 3a–4 [NPOUTIIIa–IV]

TC–MT, TL\*, RecC\* (1984–2017–ICESIMP2018)

TAC\*, Cpair\*, Cadv\*



survB\*

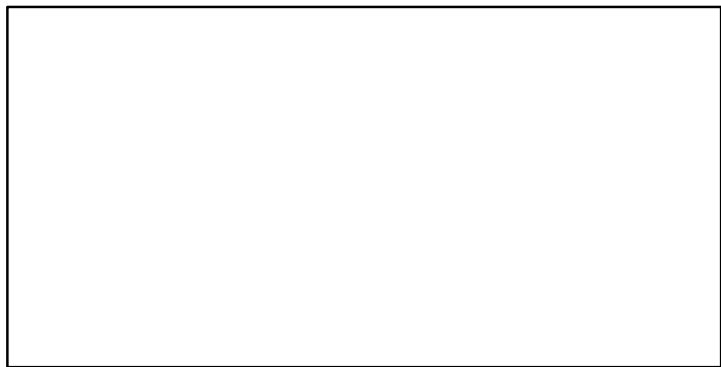
MSY\*, MORAT\*



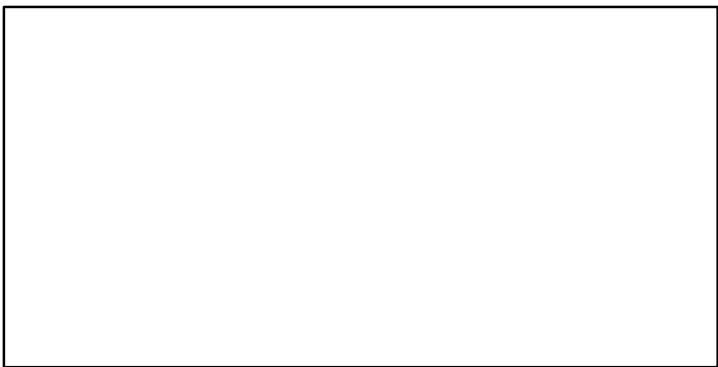
CPUE\*



EFFORT\*



CdivMSY\*



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

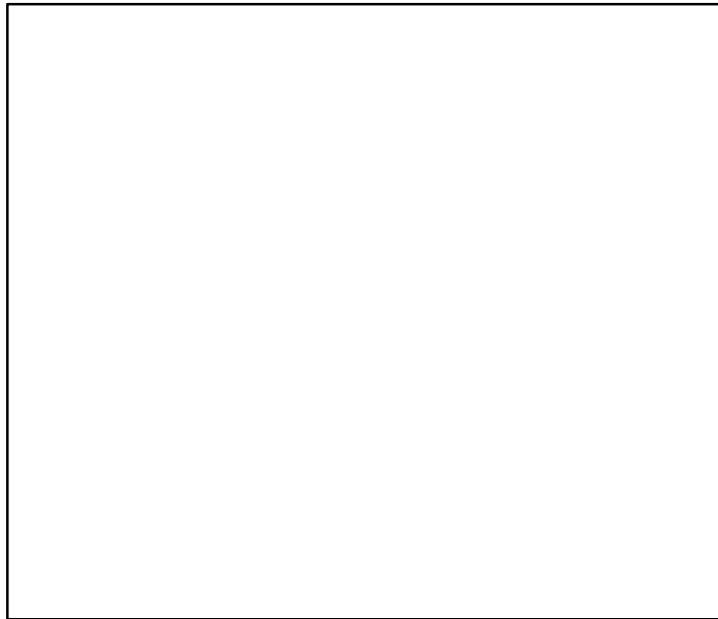
## Norway pout West of Scotland [NPOUTVla]

Metadata	
<b>Scientific Name</b>	Trisopterus esmarkii
<b>Current Assess ID</b>	WGNSSK-NPOUTVla-1970-2017-ICESIMP2021
<b>Area</b>	West of Scotland
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak
<b>Asmts in RAM</b>	2015, 2017

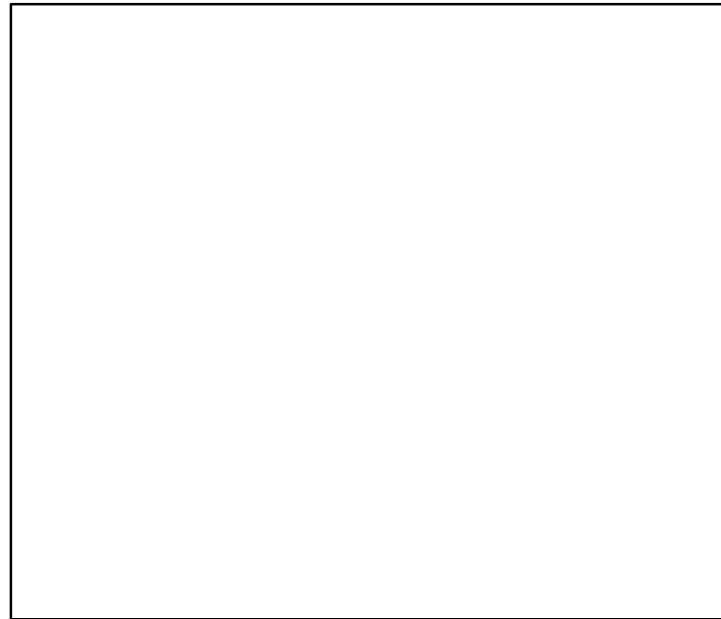
Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-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

Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	-	-	-		
<b>TL</b>	TL-MT	2017	13		
<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>	-	-	-		

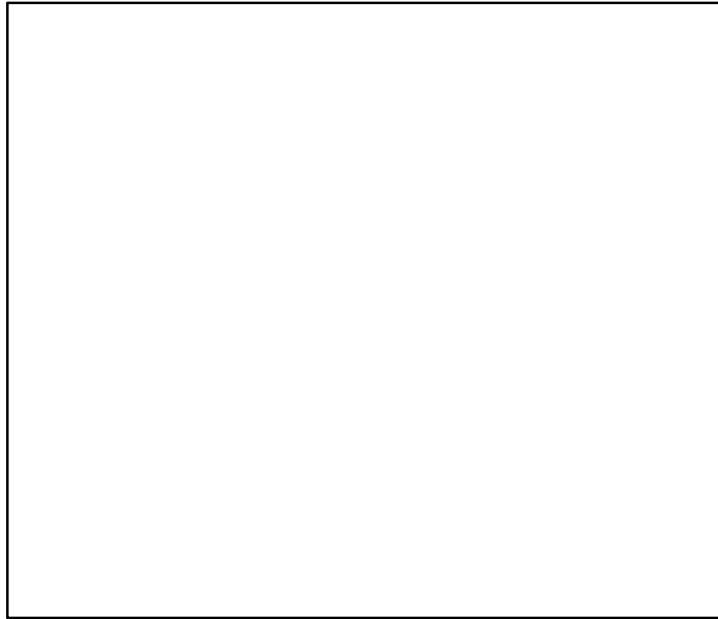
**Kobe MSY\***



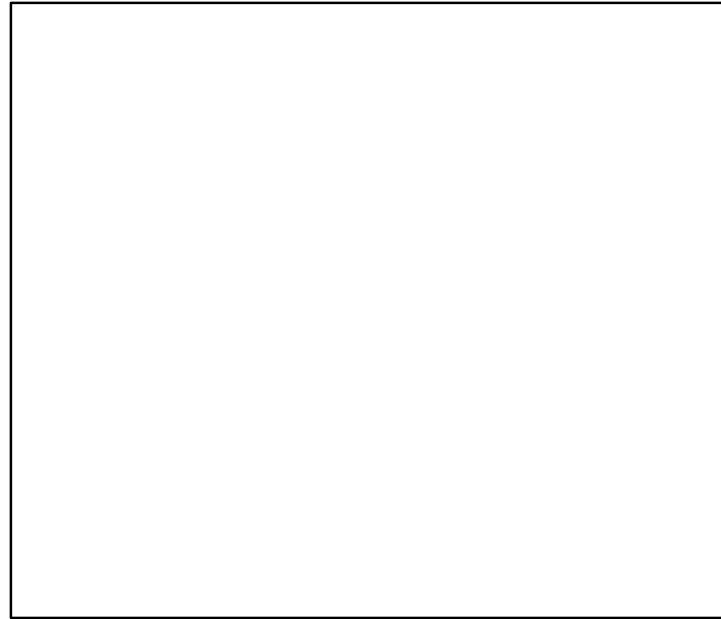
**Kobe MGT\***



**Spawner Recruit\***



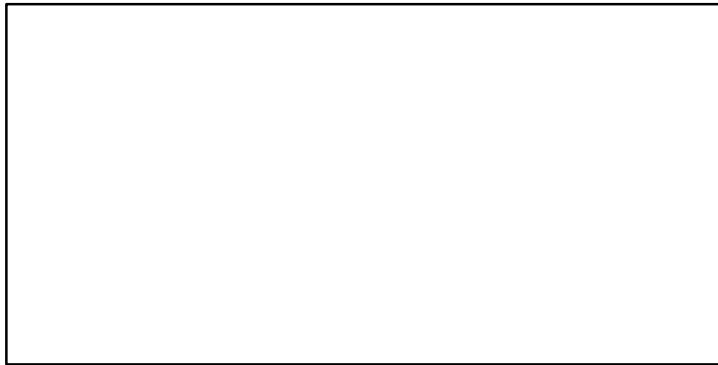
**Production\***



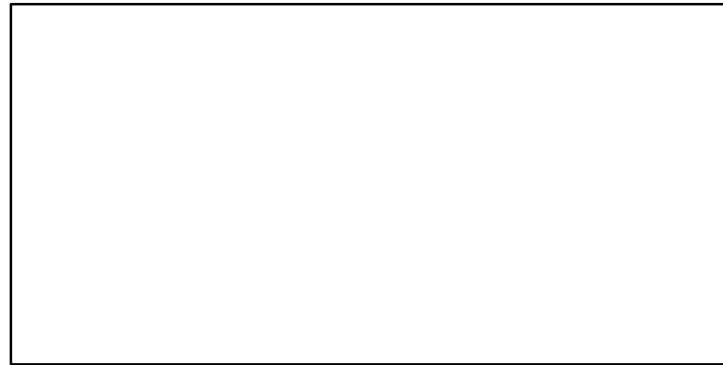
◆ Start Year ♦ End Year \* No Data

Norway pout West of Scotland [NPOUTVla]

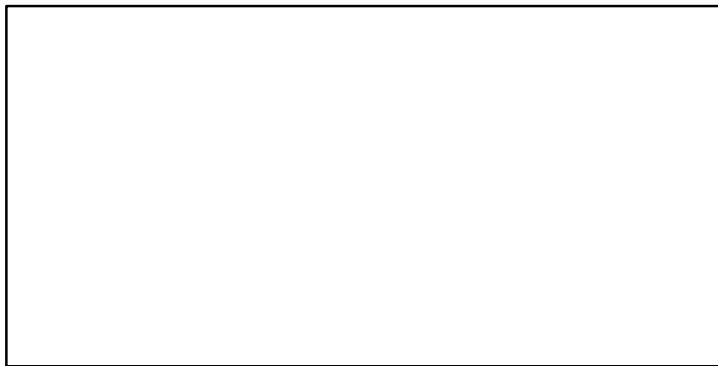
**TB\***



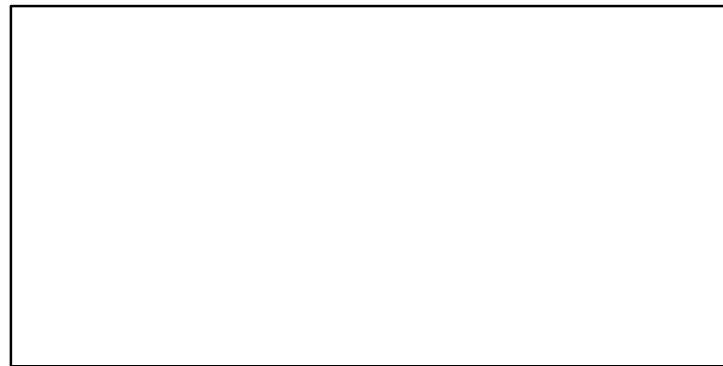
**SSB\***



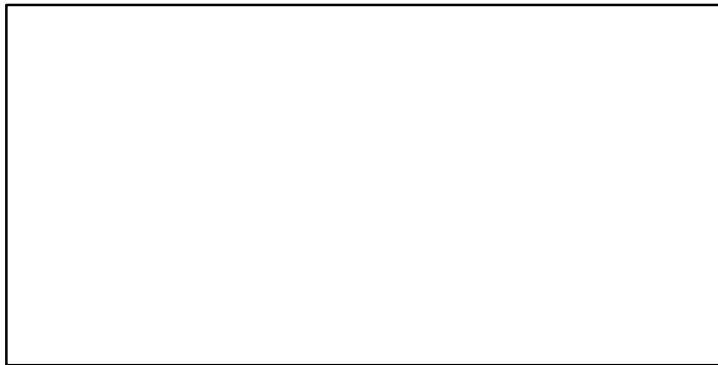
**TN \***



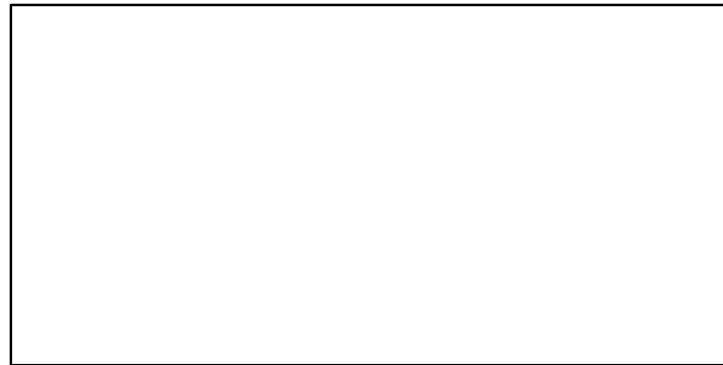
**F\***



**ER\***



**Recruits\***

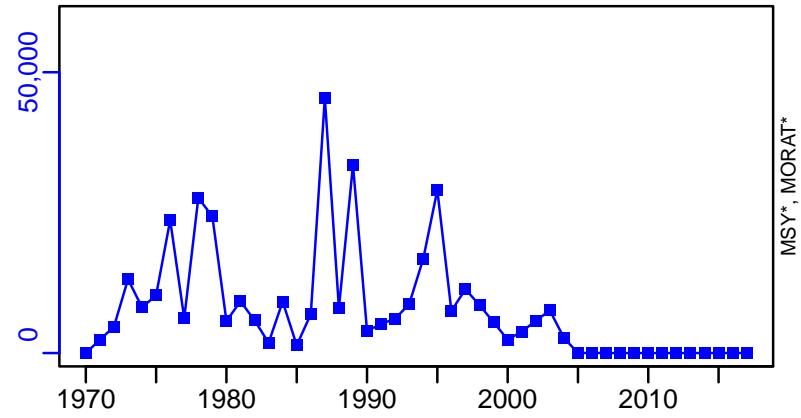


- |                      |                  |           |
|----------------------|------------------|-----------|
| ■ Listed time series | - - - Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP    | * No Data |

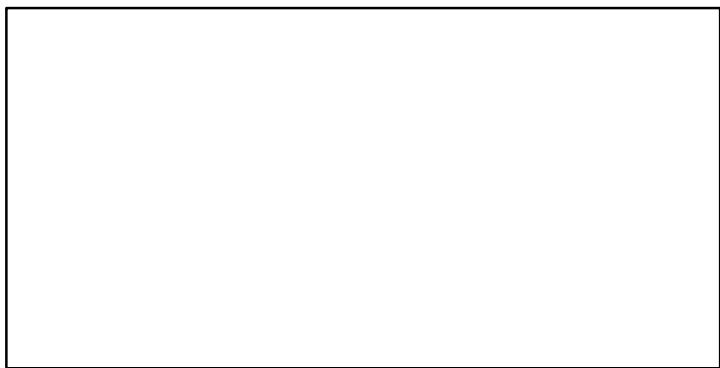
Norway pout West of Scotland [NPOUTVla]

TL-MT, TC\*, RecC\* (1970–2017–ICESIMP2021)

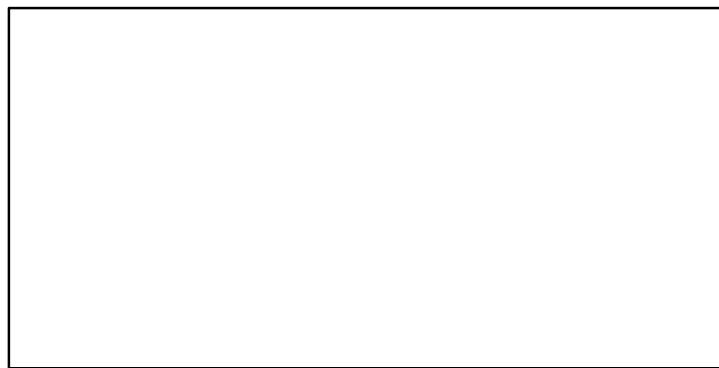
TAC\*, Cpair\*, Cadv\*



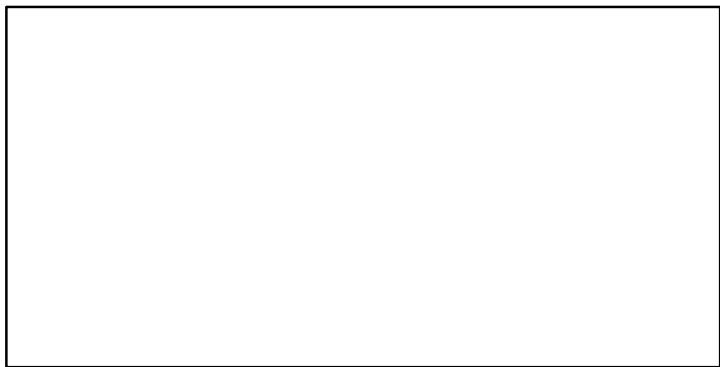
**survB\***



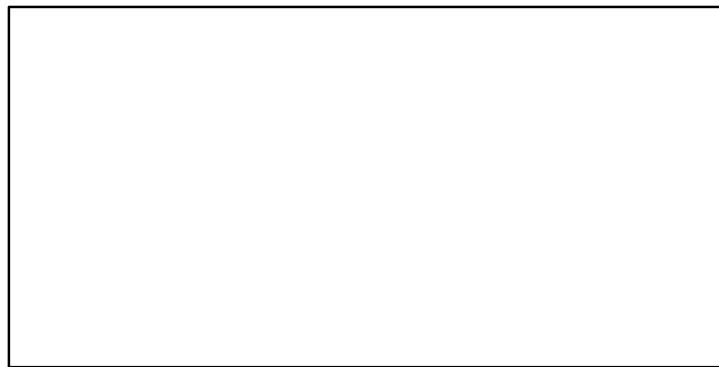
**CPUE\***



**EFFORT\***



**CdivMSY\***



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

## Patagonian cod Southern Argentina [PATCODARGS]

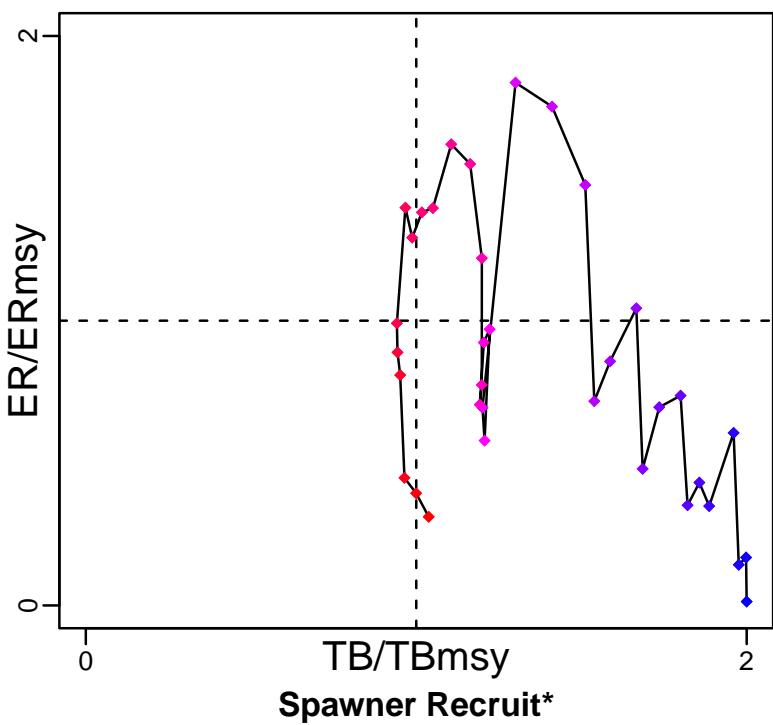
<b>Metadata</b>	
<b>Scientific Name</b>	Salilota australis
<b>Current Assess ID</b>	INIDEP-PATCODARGS-1984-2020-Parma
<b>Area</b>	Southern Argentina
<b>Management Authority</b>	Consejo Federal Pesquero, Argentina national management
<b>Assessor</b>	Instituto Nacional de Investigacion y Desarrollo Pesquero
<b>Asmts in RAM</b>	2020

<b>Reference Points</b>			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	TBmsy-MT	2020	100,734
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-ratio	2020	0.066
<b>TBmgt</b>	TBmgt-MT	2020	90,660
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	TB0-MT	2020	201,468
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-MT	2020	6478
<b>M</b>	-	-	-
<b>TBlim</b>	TBlim-MT	2020	60,440
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

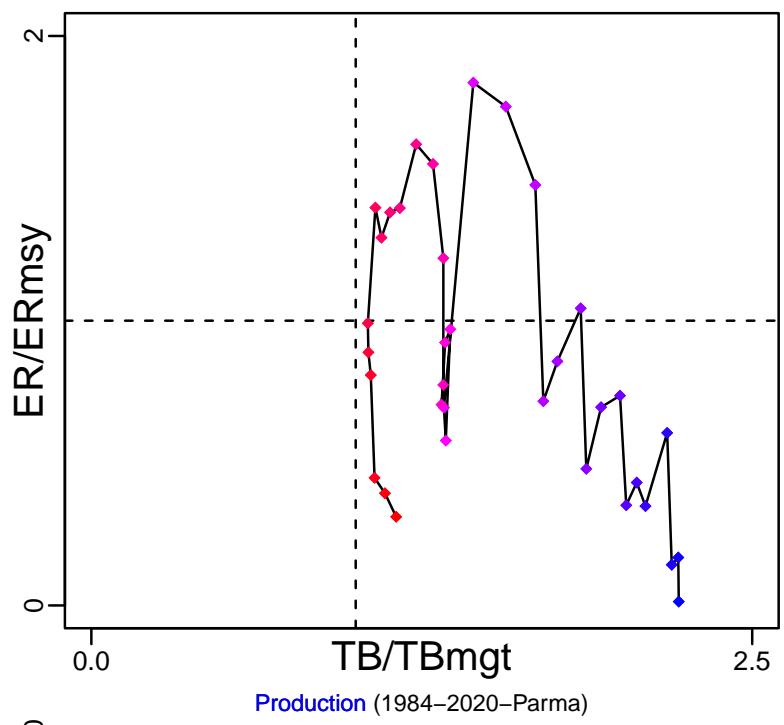
<b>Time Series</b>						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2020	108,844	-	1+	
<b>SSB</b>	-	-	-	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	-	-	-	-	-	
<b>F</b>	-	-	-	-	-	
<b>ER</b>	ER-ratio	2020	0.021	Both	-	
<b>TC</b>	TC-MT	2020	2164			
<b>TL</b>	TL-MT	2020	2164			
<b>TB/TBmsy</b>	TB-MT/TBmsy-MT	2020	1.081			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	-	-	-			
<b>ER/ERmsy</b>	ER-ratio/ERmsy-ratio	2020	0.311			
<b>TB/TBmgt</b>	TB-MT/TBmgt-MT	2020	1.201			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

**Patagonian cod Southern Argentina [PATCODARGS]**

Kobe MSYpref (1984–2020–Parma)

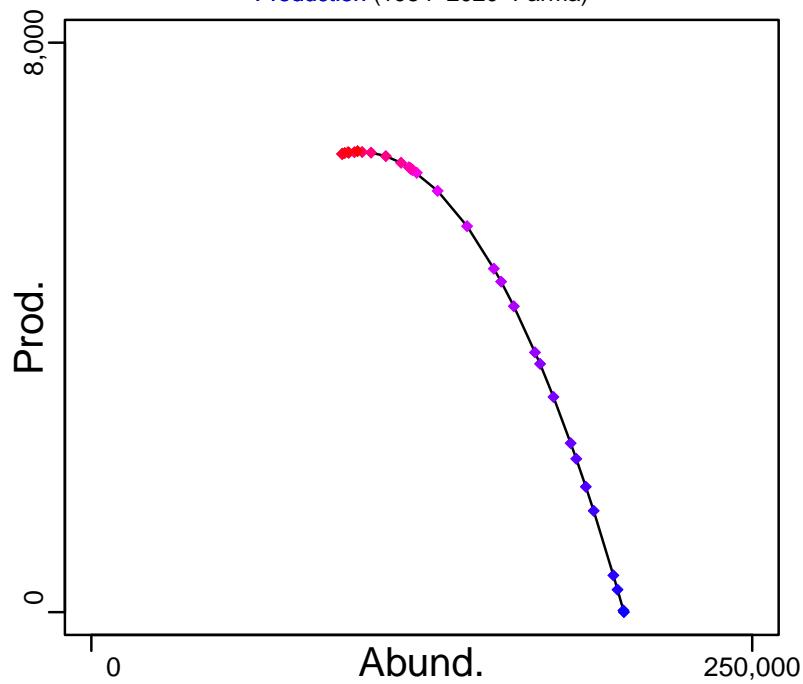
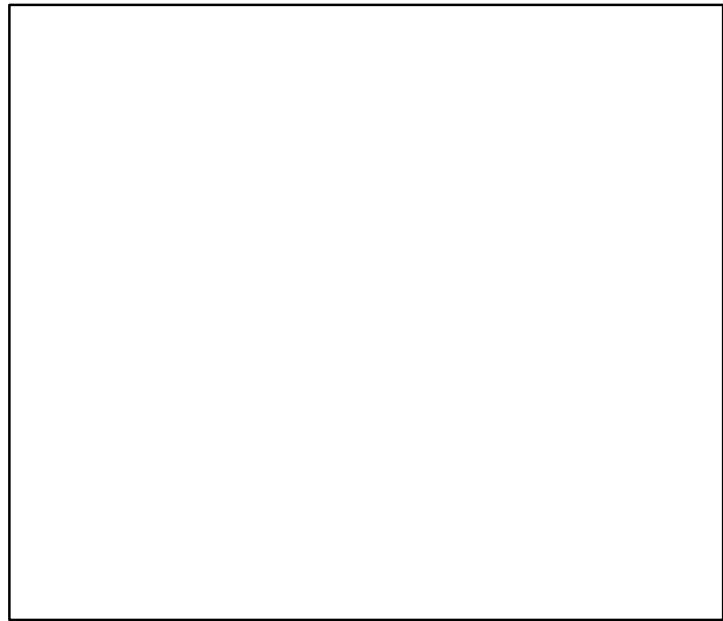


Kobe MGTPref (1984–2020–Parma)



**Spawner Recruit\***

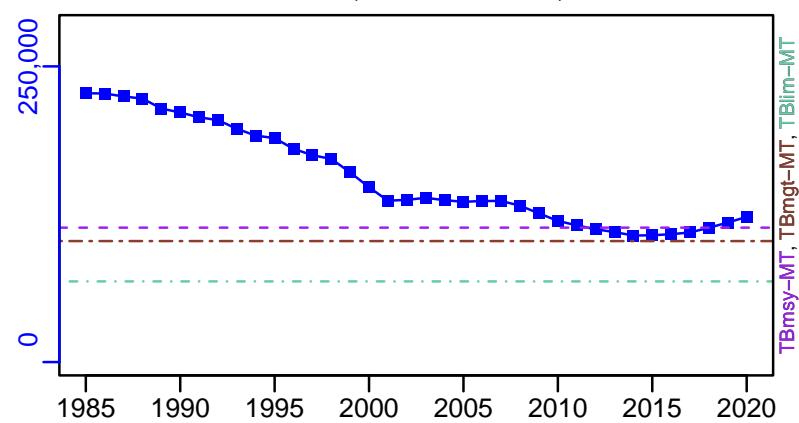
**Production (1984–2020–Parma)**



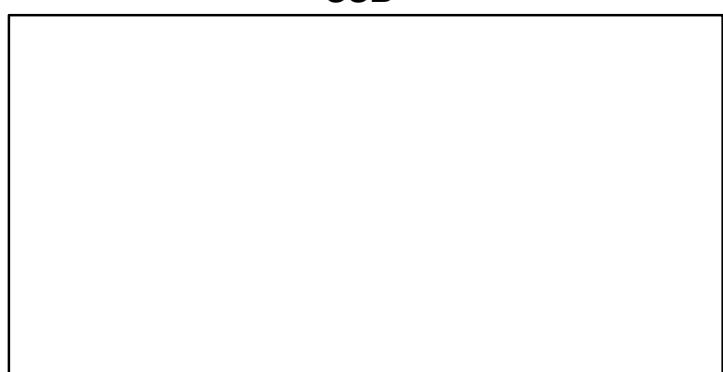
◆ Start Year   ◆ End Year   \* No Data

**Patagonian cod Southern Argentina [PATCODARGS]**

TB-MT (1984–2020–Parma)



**SSB\***



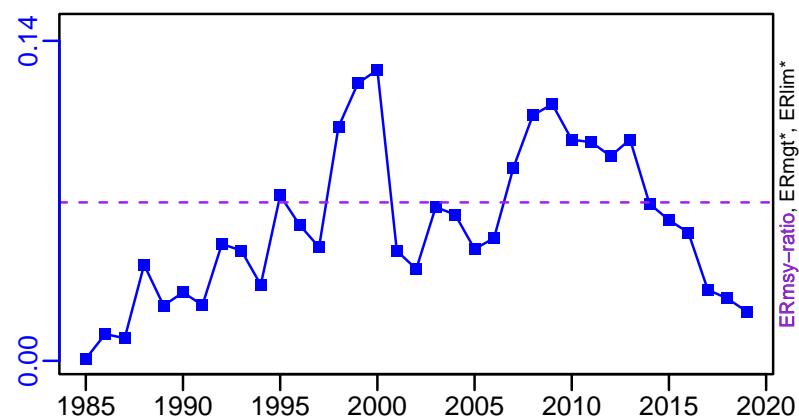
**TN \***



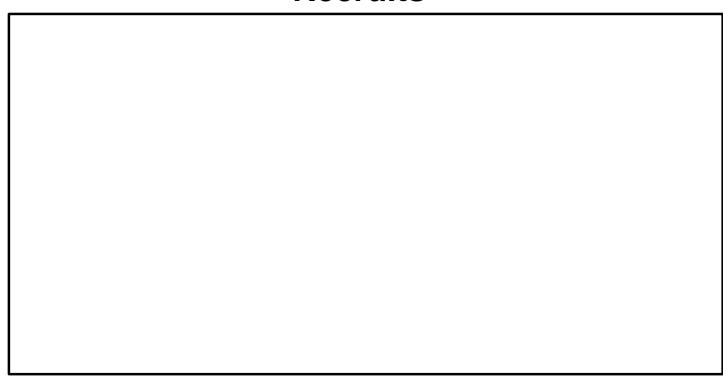
**F\***



ER-ratio (1984–2020–Parma)



**Recruits\***

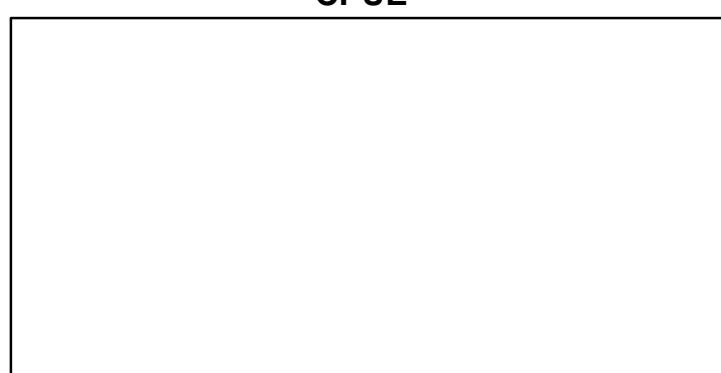
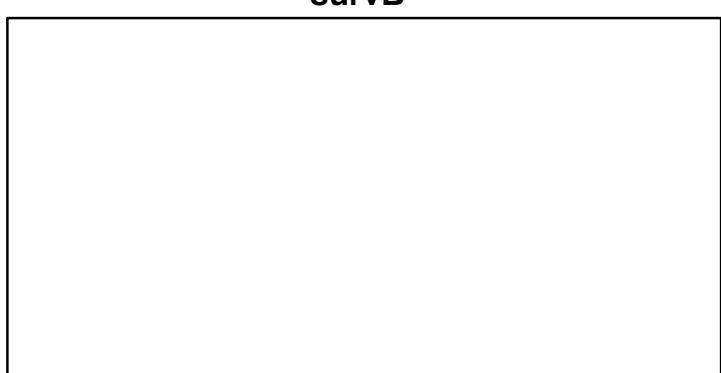
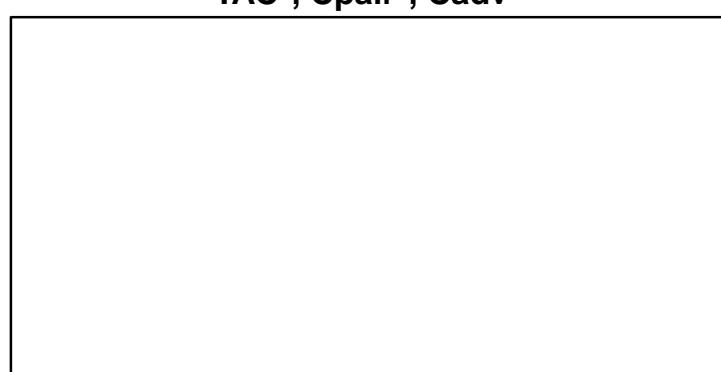
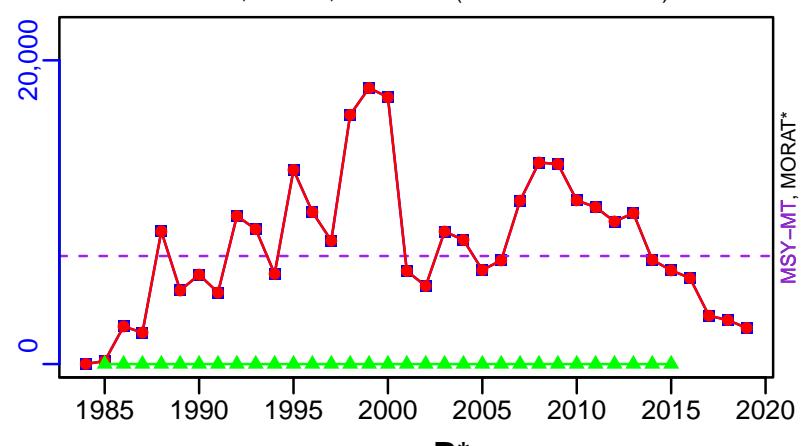


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - Lim BRP  | * No Data |

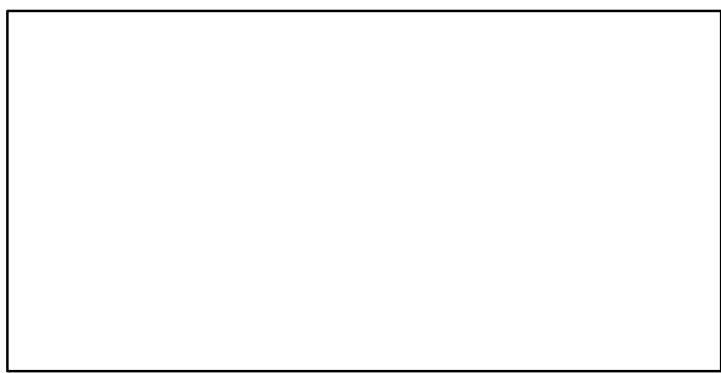
Patagonian cod Southern Argentina [PATCODARGS]

TC-MT, TL-MT, RecC-MT (1984–2020–Parma)

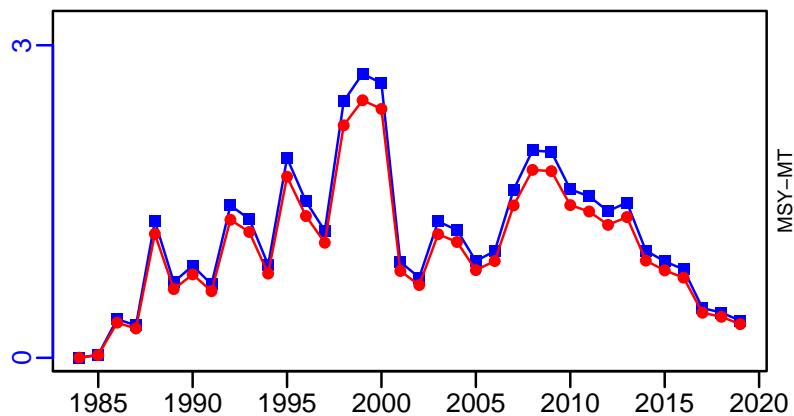
TAC\*, Cpair\*, Cadv\*



EFFORT\*



TC-MT/MSY-MT, CdivMEANC-ratio, (1984–2020–Parma)



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

## Patagonian grenadier Central-Southern Chile [PATGRENADIERCH]

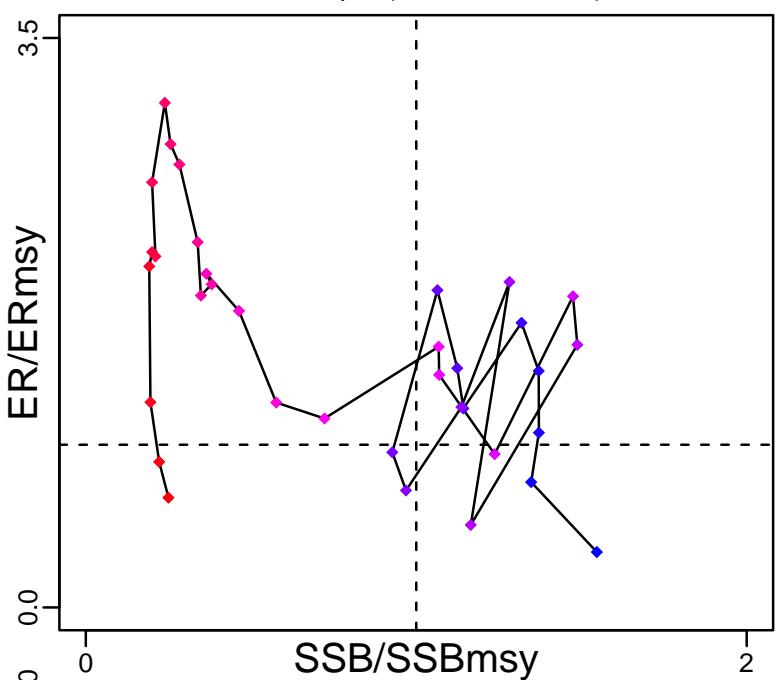
<b>Metadata</b>	
<b>Scientific Name</b>	Macruronus magellanicus
<b>Current Assess ID</b>	IFOPCH-PATGRENADIERCH-1985-2020-Quiroz
<b>Area</b>	Central-Southern Chile
<b>Management Authority</b>	Subsecretaria de Pesca
<b>Assessor</b>	Instituto de Fomento Pesquero - Chilean Fisheries Development Institute
<b>Asmts in RAM</b>	2012, 2015, 2020

<b>Reference Points</b>			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	SSBmsy-pr-MT	2020	489,984
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-extr-ratio	2020	0.173
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	M-1/yr	2015	0.35
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

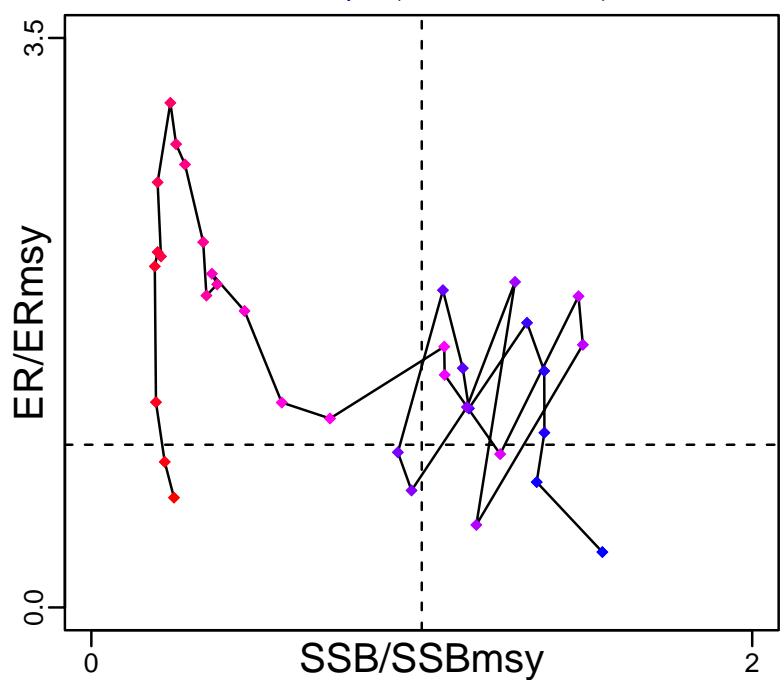
<b>Time Series</b>						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2020	359,318	-	-	
<b>SSB</b>	SSB-MT	2020	150,652	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2020	584,268,000	-	-	
<b>F</b>	-	-	-	-	-	
<b>ER</b>	ER-ratio	2020	0.06	-	-	
<b>TC</b>	TC-MT	2020	17,902			
<b>TL</b>	TL-MT	2020	17,902			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	SSBdivSSBmsy-dimensionless	2020	0.25			
<b>F/Fmsy</b>	-	-	-			
<b>ER/ERmsy</b>	ERdivERmsy-dimensionless	2020	0.675			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

Patagonian grenadier Central–Southern Chile [PATGRENADIERCH]

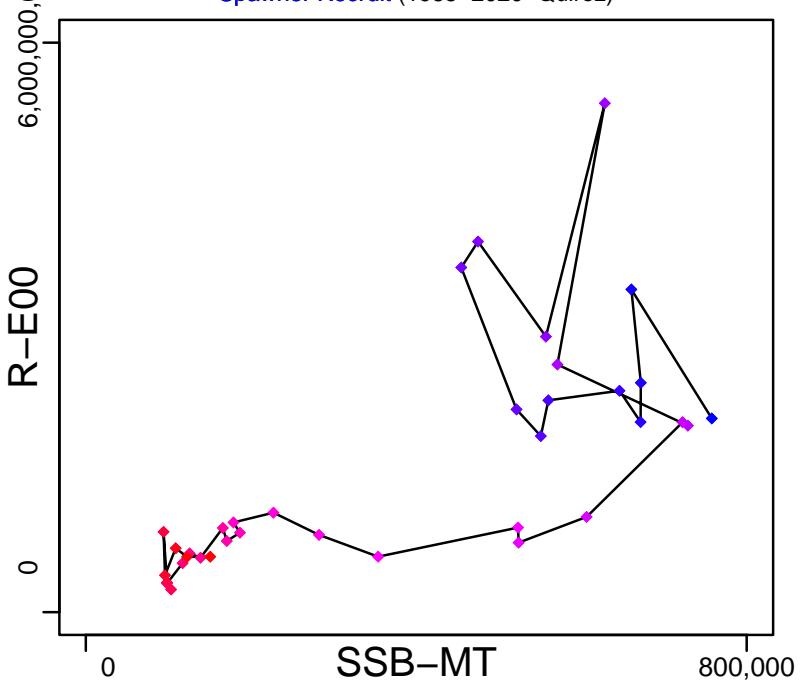
Kobe MSYpref (1985–2020–Quiroz)



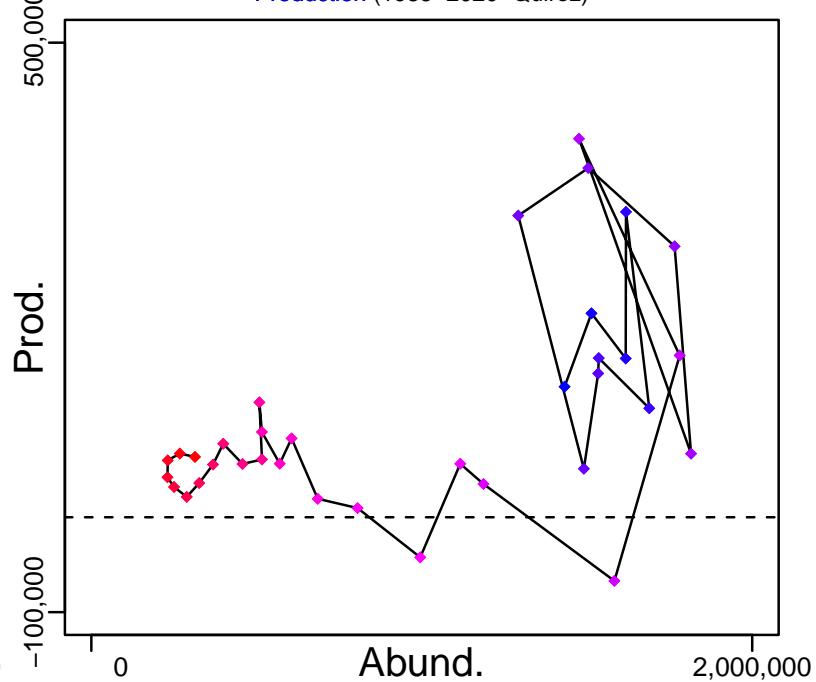
Kobe MGTPref (1985–2020–Quiroz)



Spawner Recruit (1985–2020–Quiroz)



Production (1985–2020–Quiroz)

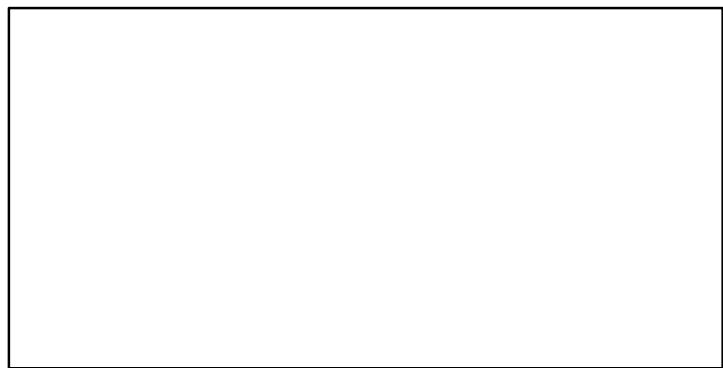
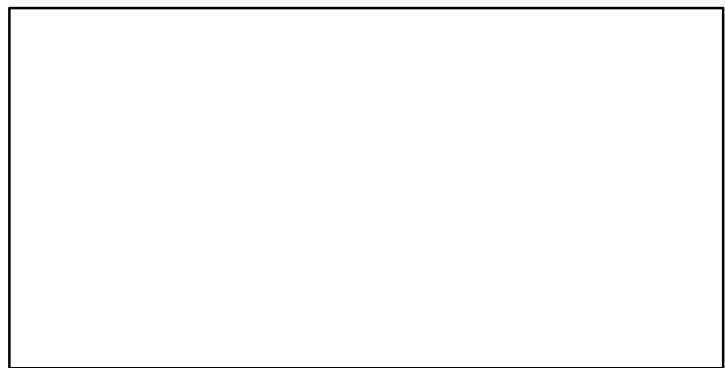
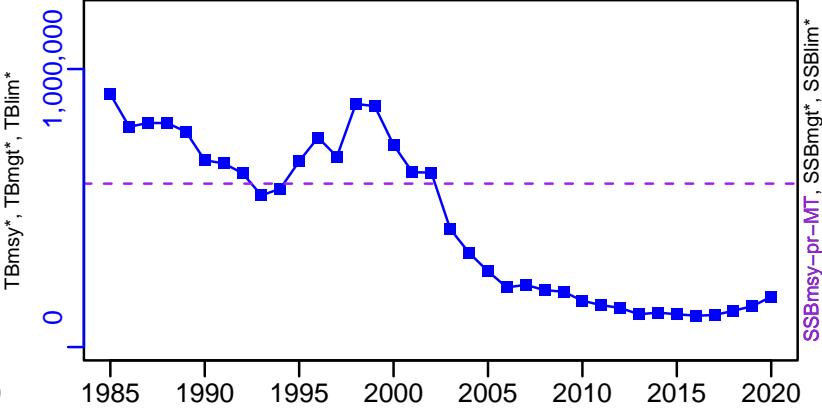
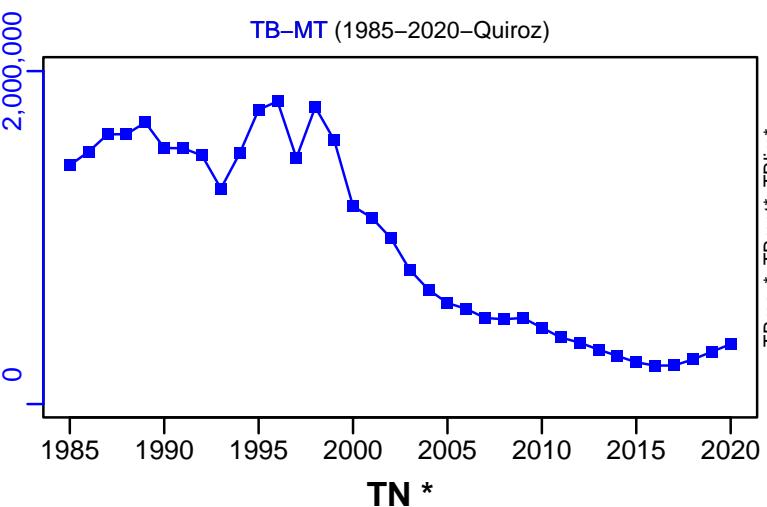


◆ Start Year   ◆ End Year   \* No Data

Patagonian grenadier Central–Southern Chile [PATGRENADIERCH]

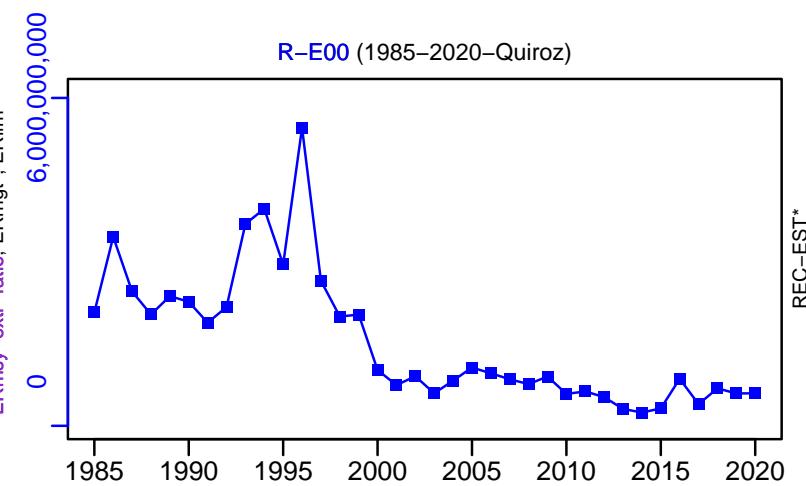
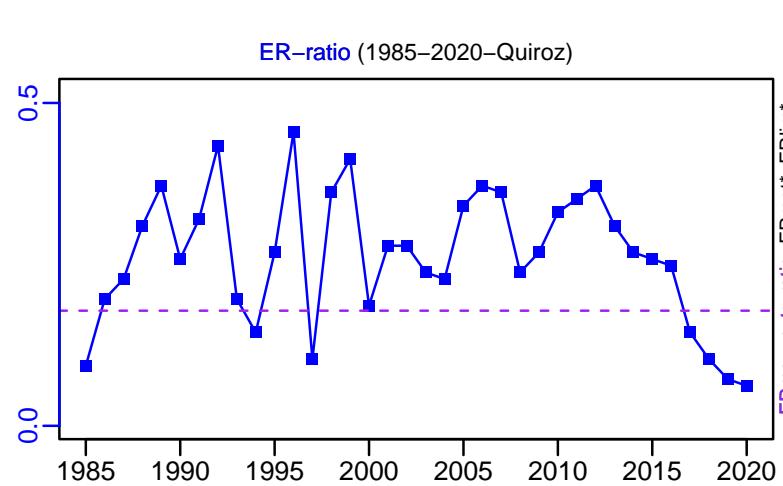
TB-MT (1985–2020–Quiroz)

SSB-MT (1985–2020–Quiroz)



ER-ratio (1985–2020–Quiroz)

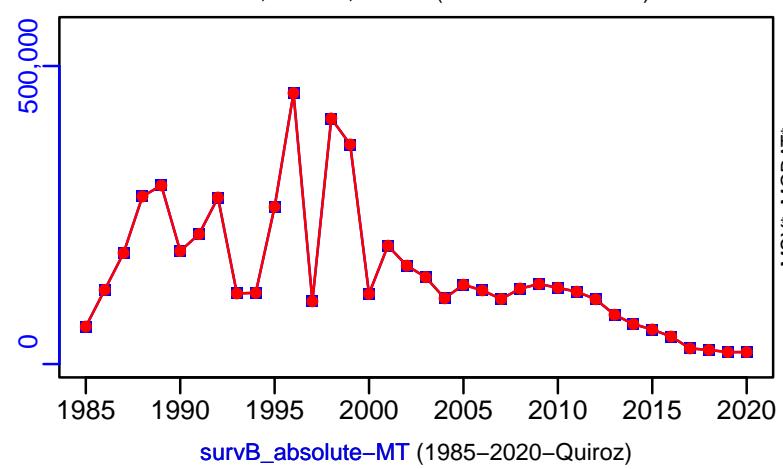
R-E00 (1985–2020–Quiroz)



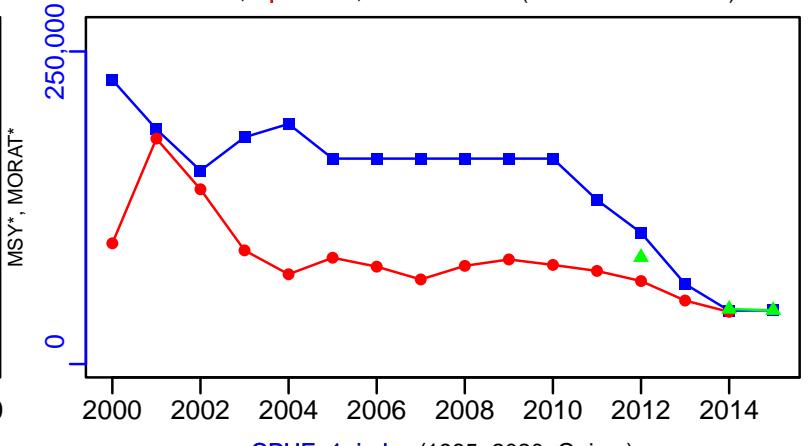
■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	- - Lim BRP	* No Data

**Patagonian grenadier Central–Southern Chile [PATGRENADIERCH]**

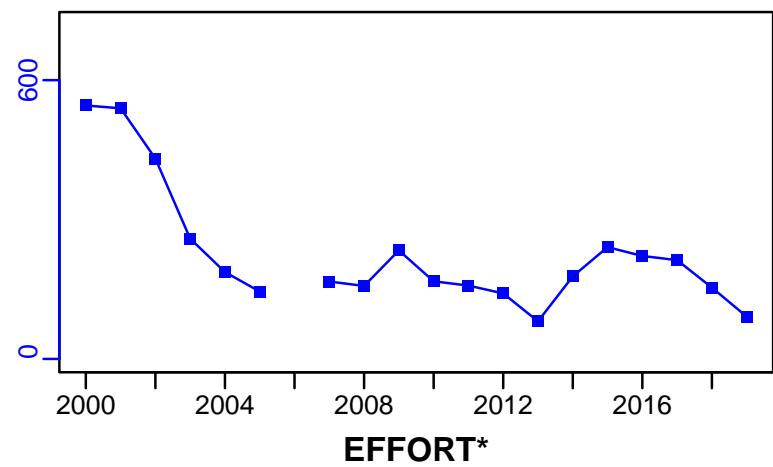
TC-MT, TL-MT, RecC\* (1985–2020–Quiroz)



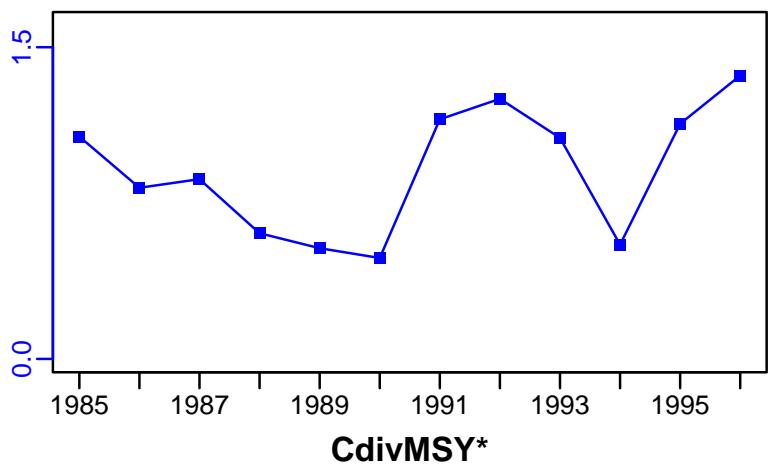
TAC-MT, Cpair-MT, Cadvised-MT (1985–2020–Quiroz)



survB\_absolute-MT (1985–2020–Quiroz)



CPUE-1-index (1985–2020–Quiroz)



EFFORT\*

CdivMSY\*

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

## Patagonian grenadier Southern Argentina [PATGRENADIERARG]

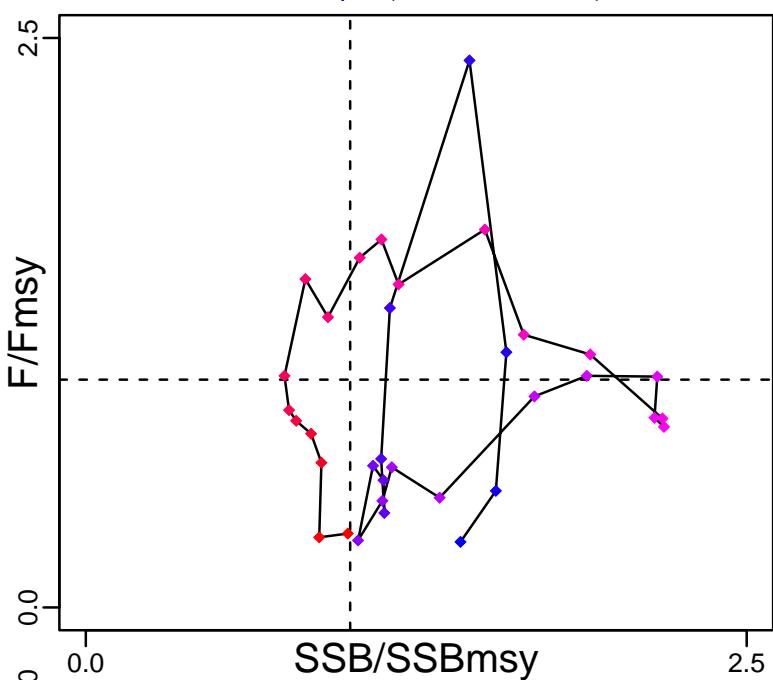
<b>Metadata</b>	
<b>Scientific Name</b>	Macruronus magellanicus
<b>Current Assess ID</b>	INIDEP-PATGRENADIERARG-1983-2019-Parma
<b>Area</b>	Southern Argentina
<b>Management Authority</b>	Consejo Federal Pesquero, Argentina national management
<b>Assessor</b>	Instituto Nacional de Investigacion y Desarrollo Pesquero
<b>Asmts in RAM</b>	2006, 2015, 2019

<b>Reference Points</b>			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	TBmsy-MT	2006	642,031
<b>SSBmsy</b>	SSBmsy-MT	2019	278,120
<b>Fmsy</b>	Fmsy-1/yr	2019	0.299
<b>ERrmsy</b>	ERrmsy-ratio	2006	0.206
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2019	198,474
<b>Fmgt</b>	Fmgt-1/yr	2019	0.215
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	SSB0-MT	2019	496,186
<b>MSY</b>	MSY-MT	2019	78,761
<b>M</b>	M-1/yr	2019	0.35
<b>TBlim</b>	TBlim-MT	2006	415,041
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

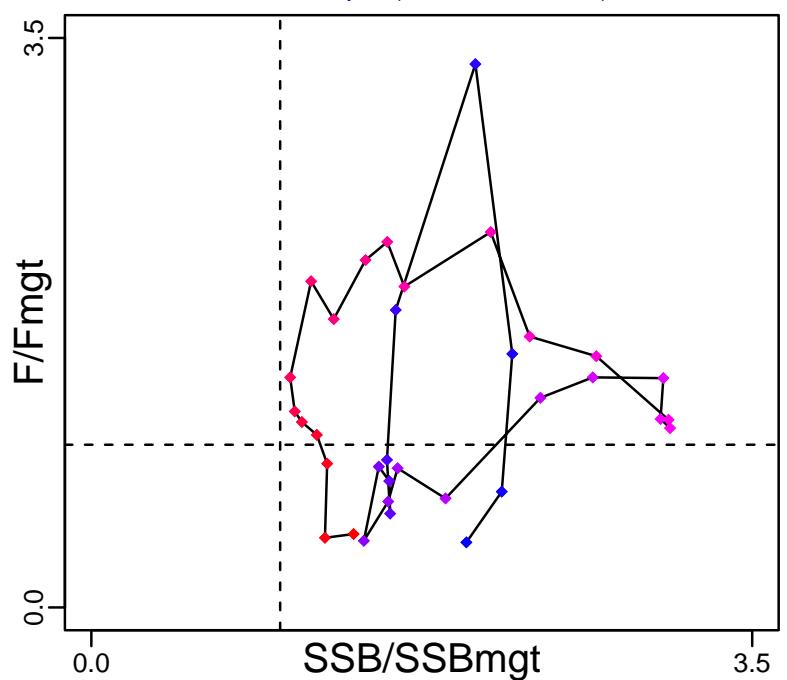
<b>Time Series</b>						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2019	686,905	-	1+	
<b>SSB</b>	SSB-MT	2019	275,663	-	2+	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2019	239,478,000	-	1	
<b>F</b>	F-1/yr	2019	0.097	-	3-11+	
<b>ER</b>	ER-calc-ratio	2019	0.062	-	-	
<b>TC</b>	TC-MT	2019	50,000			
<b>TL</b>	-	-	-			
<b>TB/TBmsy</b>	TB-MT/TBmsy-MT	2006	2.149			
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2019	0.991			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2019	0.324			
<b>ER/ERrmsy</b>	ER-ratio/ERrmsy-ratio	2006	0.534			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2019	1.389			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2019	0.451			
<b>ER/ERmgt</b>	-	-	-			

Patagonian grenadier Southern Argentina [PATGRENADIERSARG]

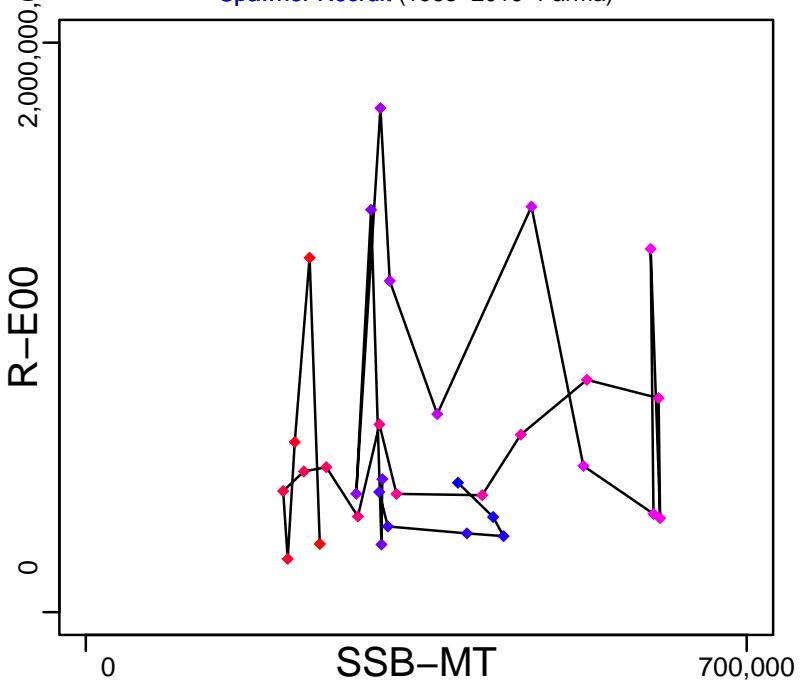
Kobe MSYpref (1983–2019–Parma)



Kobe MGTPref (1983–2019–Parma)



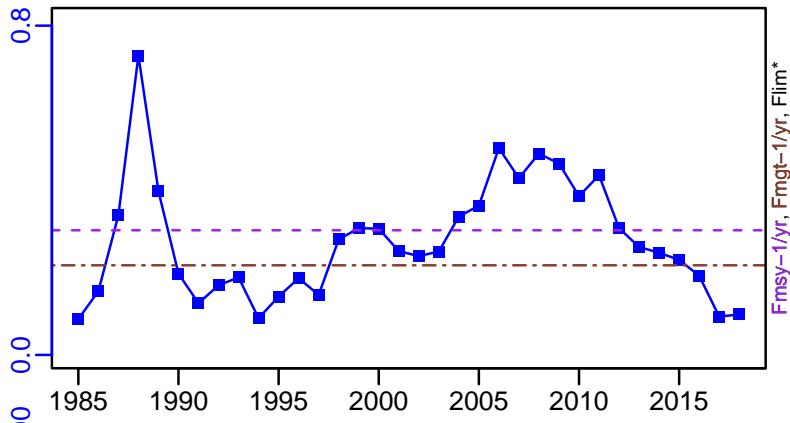
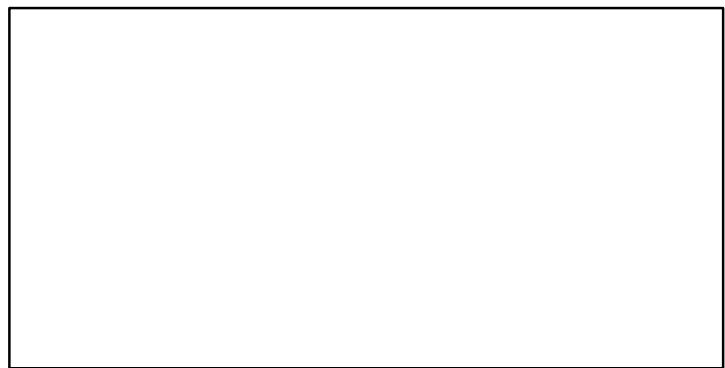
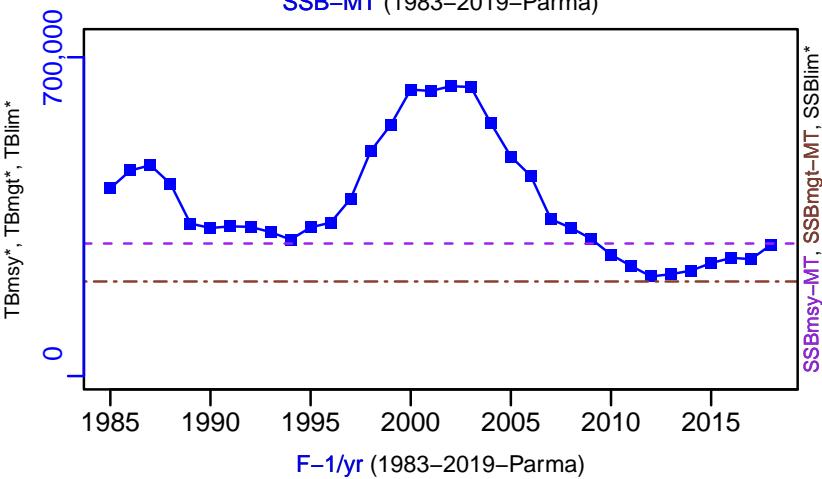
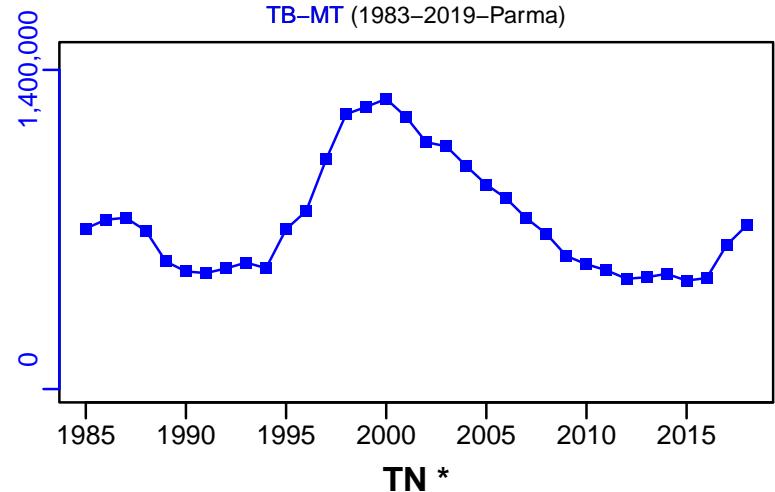
Spawner Recruit (1983–2019–Parma)



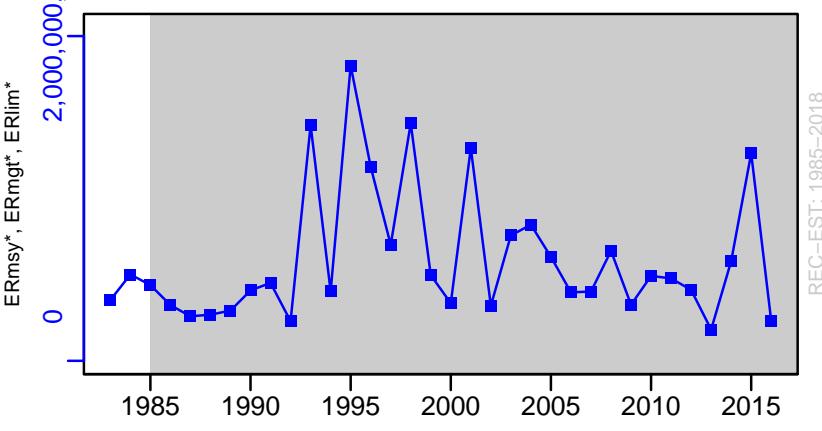
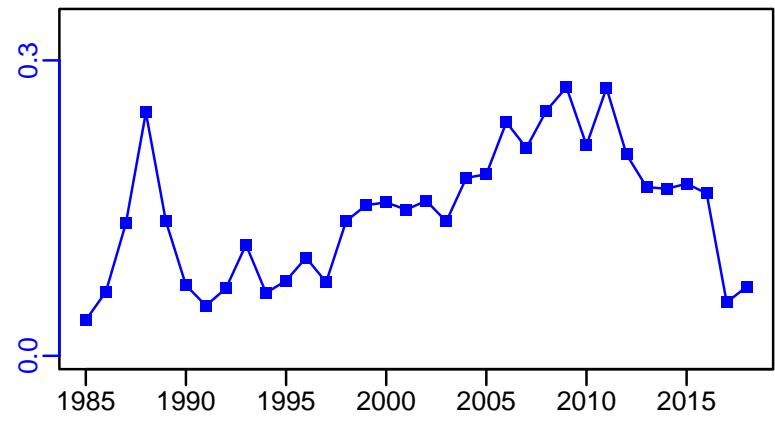
Patagonian grenadier Southern Argentina [PATGRENADIERSARG]

TB-MT (1983–2019–Parma)

SSB-MT (1983–2019–Parma)



ER-calc-ratio (1983–2019–Parma)



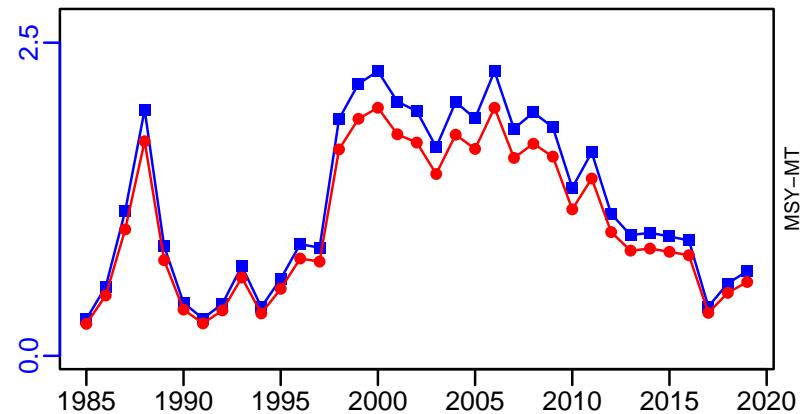
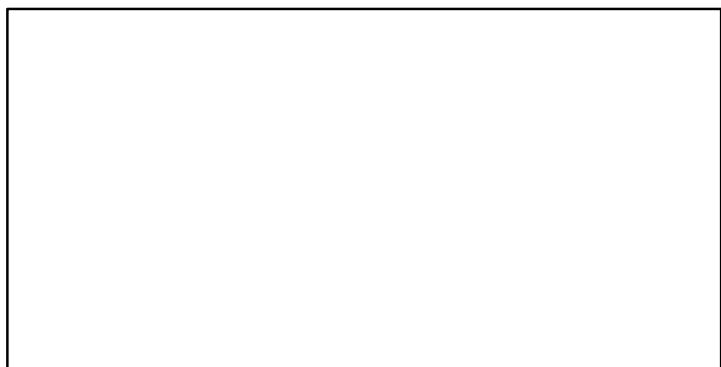
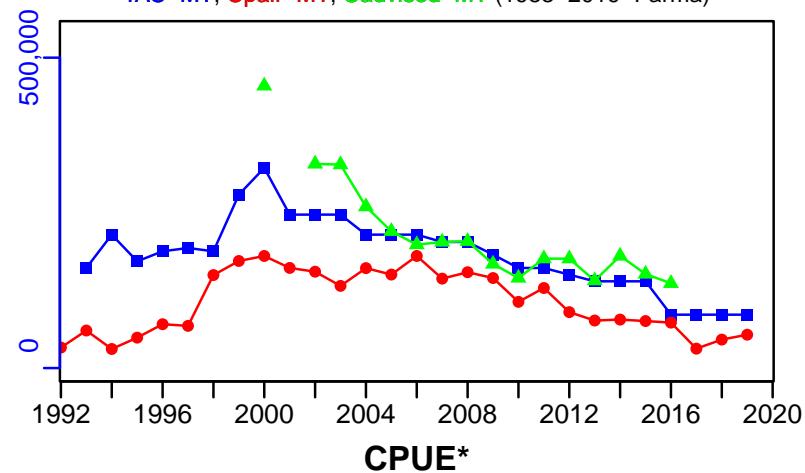
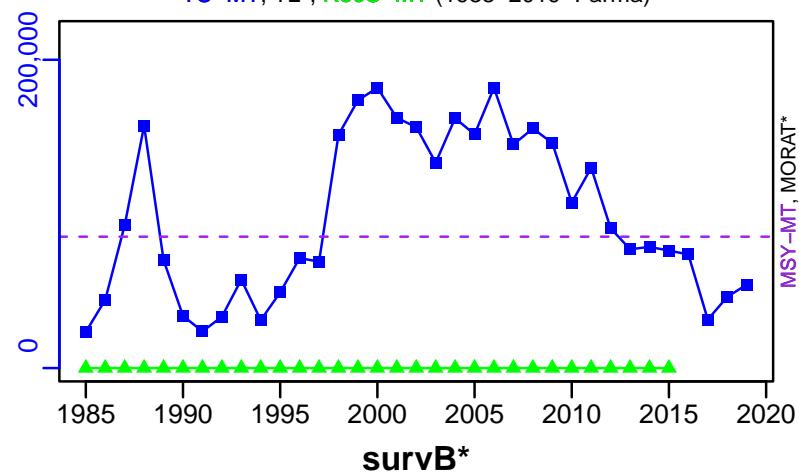
REC-EST: 1985–2018

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

Patagonian grenadier Southern Argentina [PATGRENADIERSARG]

TC-MT, TL\*, RecC-MT (1983–2019–Parma)

TAC-MT, Cpair-MT, Cadvised-MT (1983–2019–Parma)



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

## Pacific cod British Columbia Waters Area 5ABCD [PCOD5ABCD]

Metadata	
<b>Scientific Name</b>	Gadus macrocephalus
<b>Current Assess ID</b>	DFO-PAC-PCOD5ABCD-1953-2019-ASHBROOK
<b>Area</b>	British Columbia Waters Area 5ABCD
<b>Management Authority</b>	Department of Fisheries and Oceans, Canada national management
<b>Assessor</b>	Department of Fisheries and Oceans - Pacific Region
<b>Asmts in RAM</b>	2019

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	TBmgt-MT	2019	33,780
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	TB0-MT	2019	26,073
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	TBlim-MT	2019	9762
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

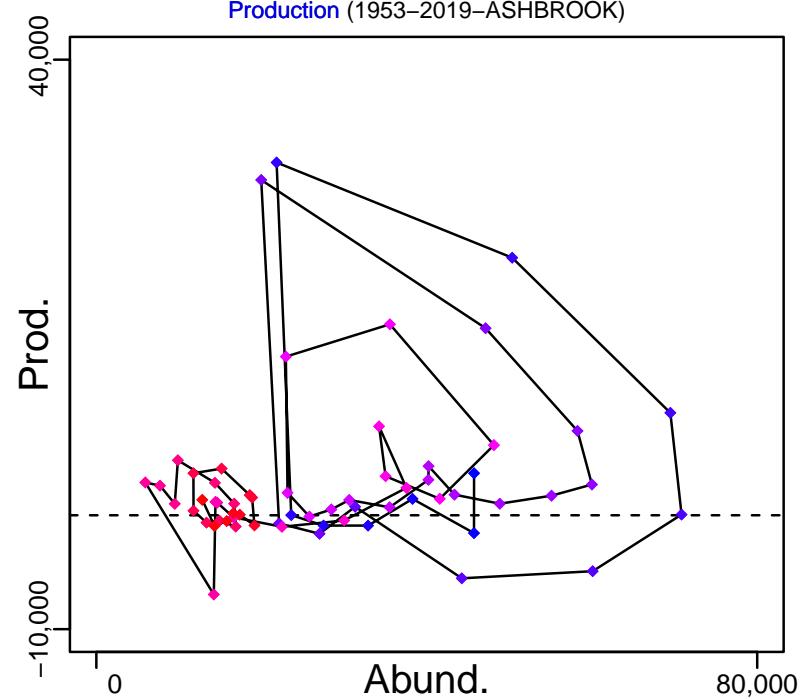
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2019	15,687	-	2+	
<b>SSB</b>	-	-	-	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2019	2,875,481	-	2+	
<b>F</b>	-	-	-	-	-	
<b>ER</b>	ER-calc-ratio	2019	0.016	-	-	
<b>TC</b>	-	-	-			
<b>TL</b>	TL-MT	2019	215			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	-	-	-			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	TB-MT/TBmgt-MT	2019	0.464			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

Kobe MSY\*

Kobe MGT\*

Spawner Recruit\*

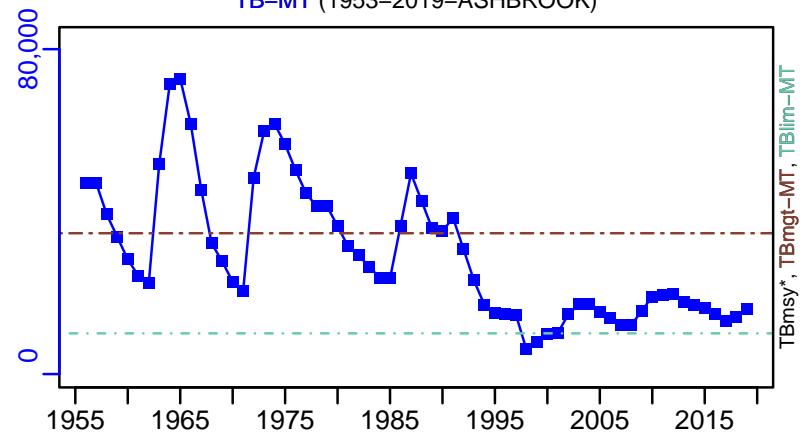
Production (1953–2019–ASHBROOK)



◆ Start Year   ◆ End Year   \* No Data

Pacific cod British Columbia Waters Area 5ABCD [PCOD5ABCD]

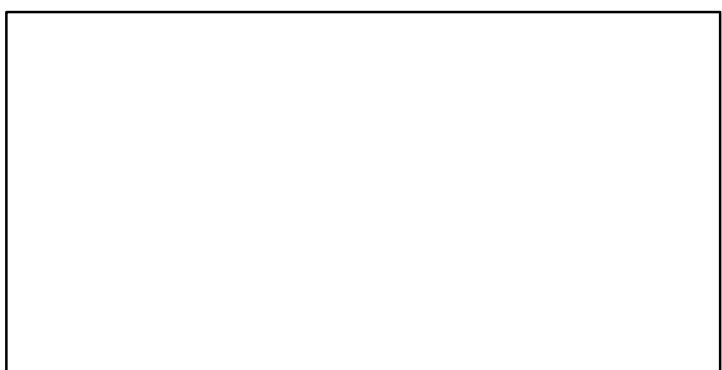
TB-MT (1953–2019–ASHBROOK)



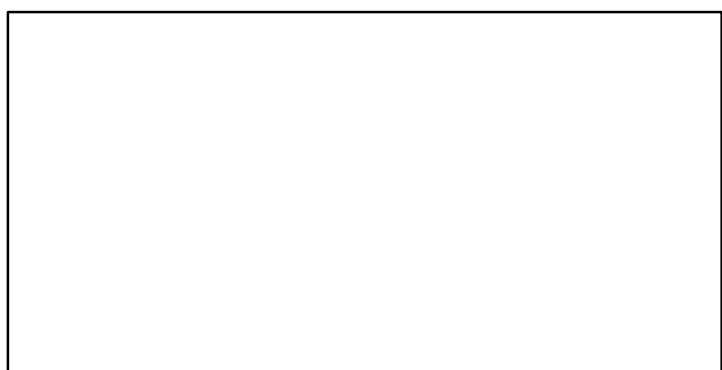
SSB\*



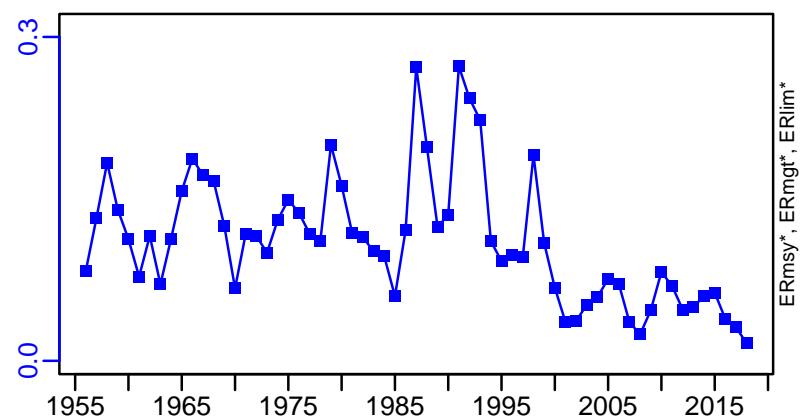
TN \*



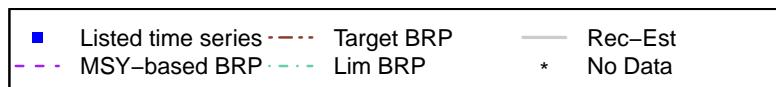
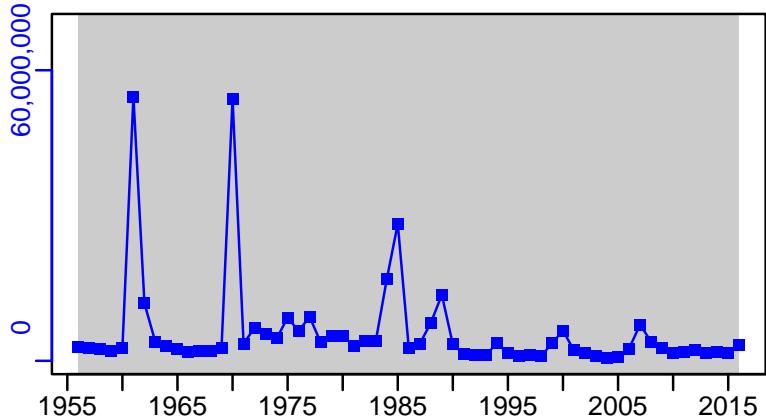
F\*



ER-calc-ratio (1953–2019–ASHBROOK)



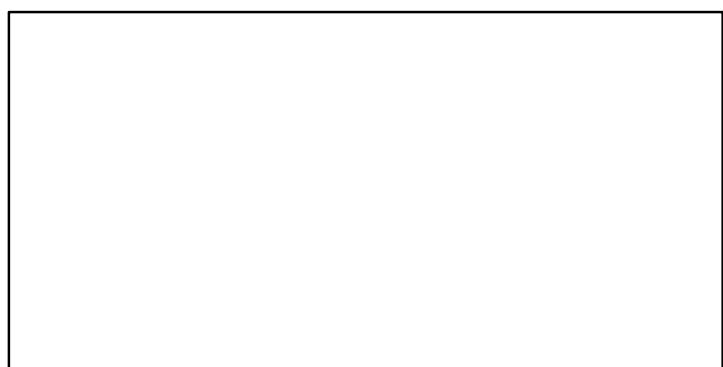
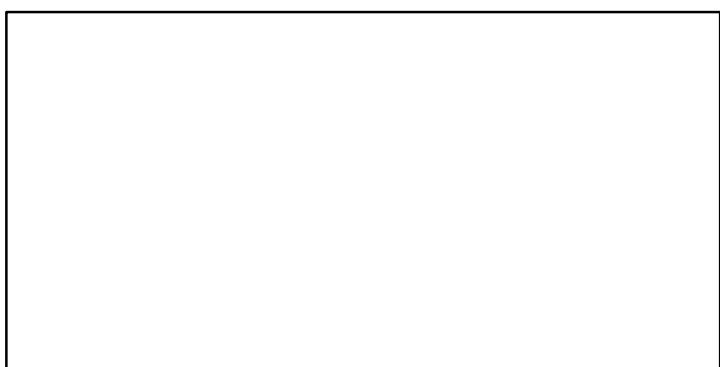
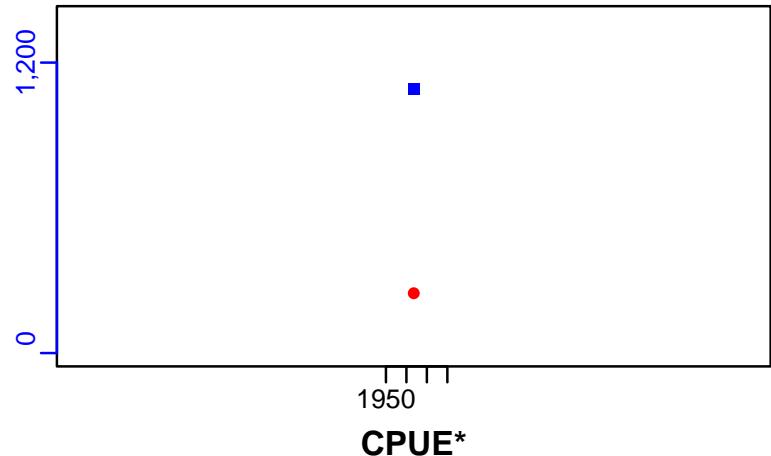
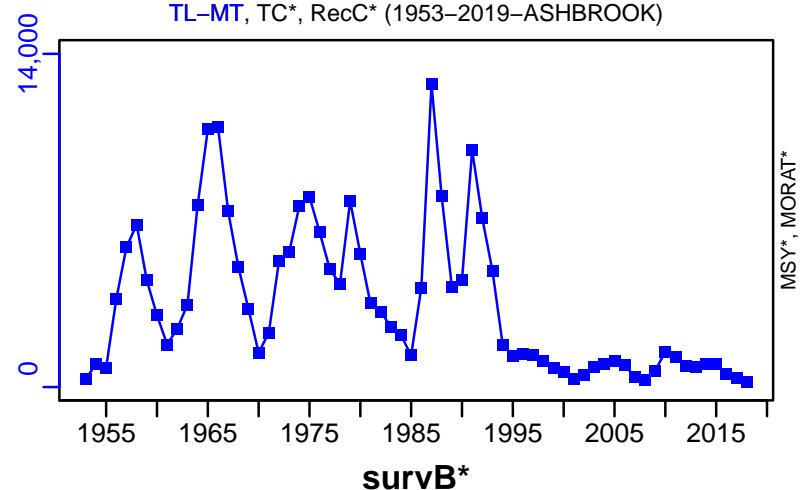
R-E00 (1953–2019–ASHBROOK)



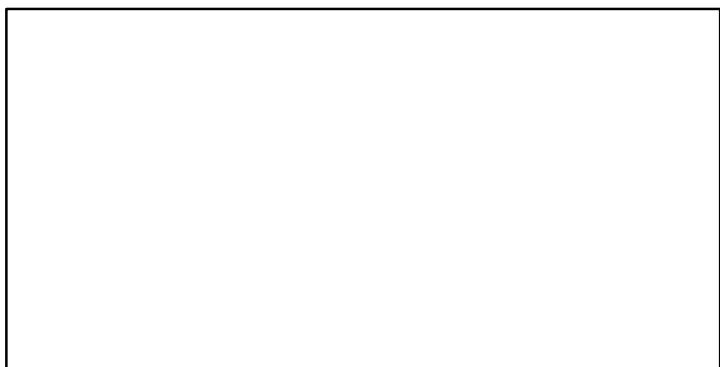
Pacific cod British Columbia Waters Area 5ABCD [PCOD5ABCD]

TL-MT, TC\*, RecC\* (1953–2019–ASHBROOK)

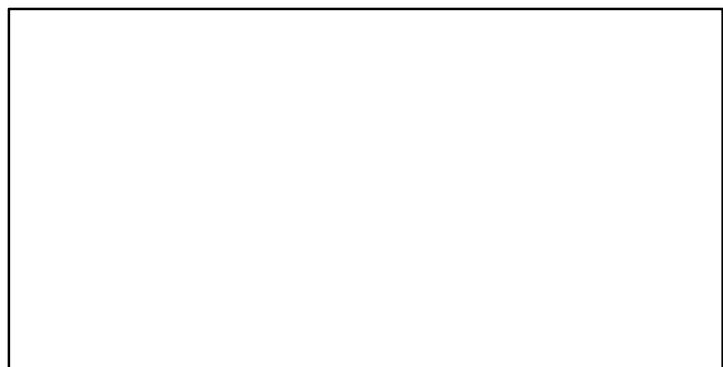
TAC-MT, Cpair-MT, Cadv\* (1953–2019–ASHBROOK)



EFFORT\*



CdivMSY\*



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

## Pacific cod Aleutian Islands [PCODAI]

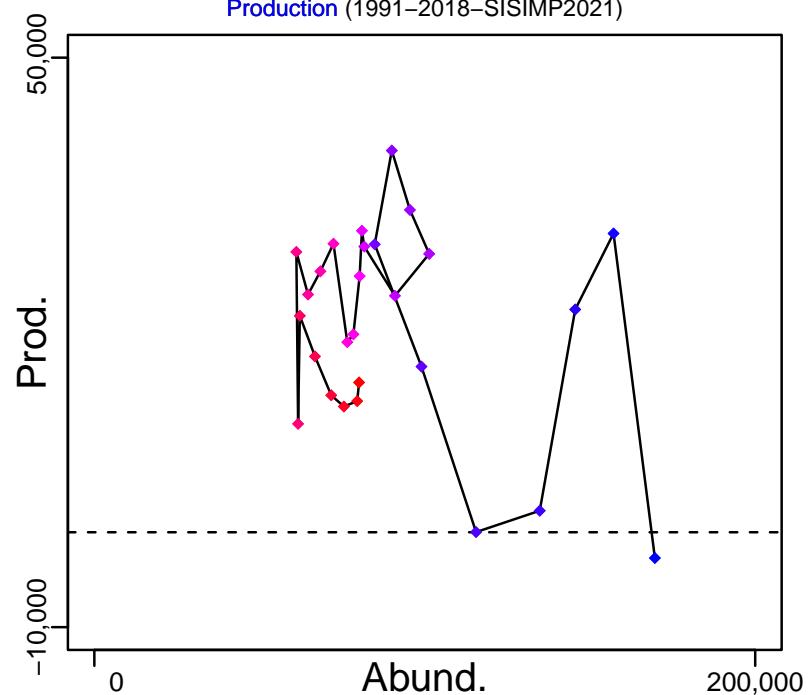
<b>Metadata</b>	
<b>Scientific Name</b>	Gadus macrocephalus
<b>Current Assess ID</b>	AFSC-PCODAI-1964-2020-SISIMP2021-2
<b>Area</b>	Aleutian Islands
<b>Management Authority</b>	National Marine Fisheries Service, US national management
<b>Assessor</b>	Alaska Fisheries Science Center
<b>Asmts in RAM</b>	2020, 2014, 2016, 2018, 2018

<b>Reference Points</b>			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERrmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<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	2018	80,696	-	-	
<b>SSB</b>	-	-	-	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	-	-	-	-	-	
<b>F</b>	-	-	-	-	-	
<b>ER</b>	ER-calc-ratio	2018	0.242	-	-	
<b>TC</b>	TC-MT	2020	19,200			
<b>TL</b>	-	-	-			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	-	-	-			
<b>ER/ERrmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

**Kobe MSY\*****Kobe MGT\*****Spawner Recruit\***

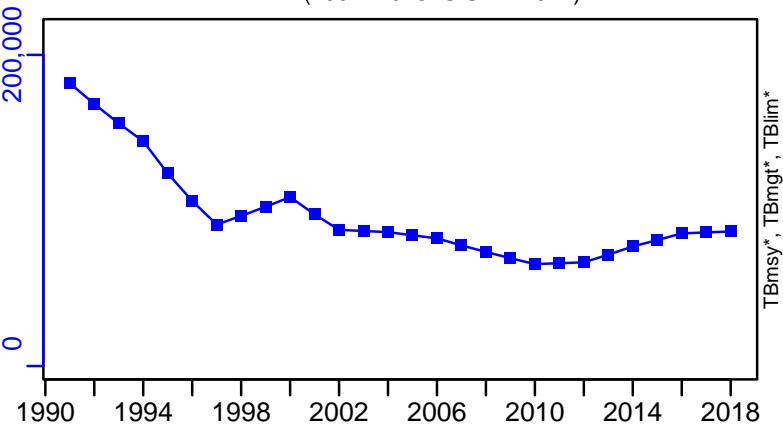
Production (1991–2018–SISIMP2021)



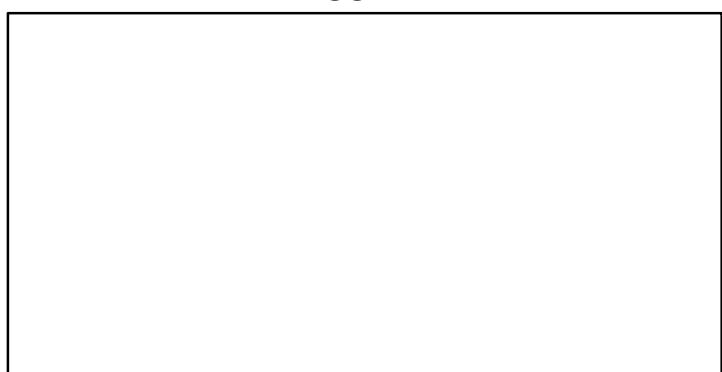
◆ Start Year ♦ End Year \* No Data

Pacific cod Aleutian Islands [PCODAI]

TB-MT (1991–2018–SISIMP2021)



SSB\*



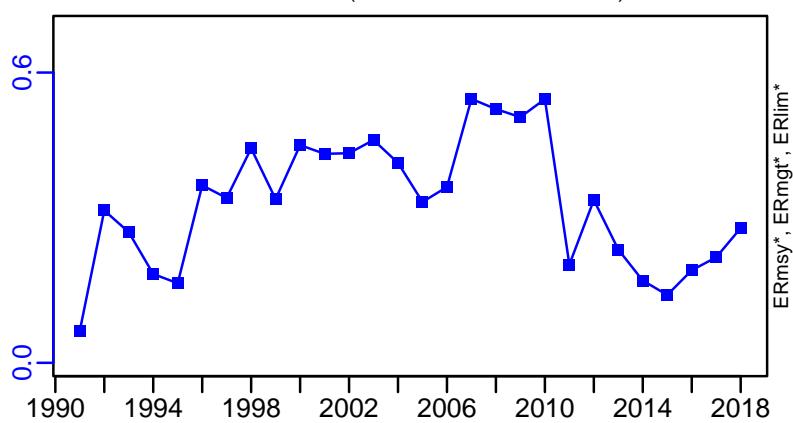
TN \*



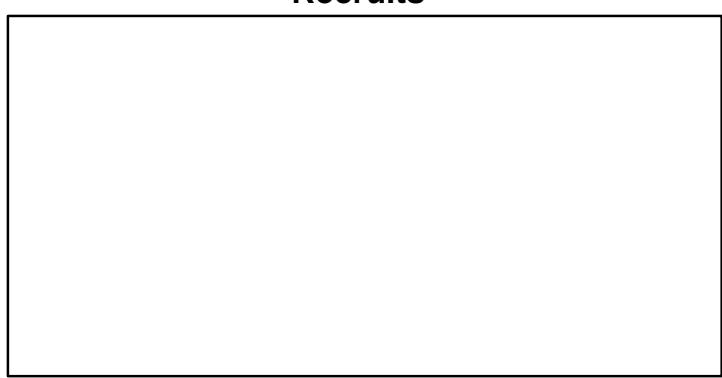
F\*



ER-calc-ratio (1991–2018–SISIMP2021)



Recruits\*

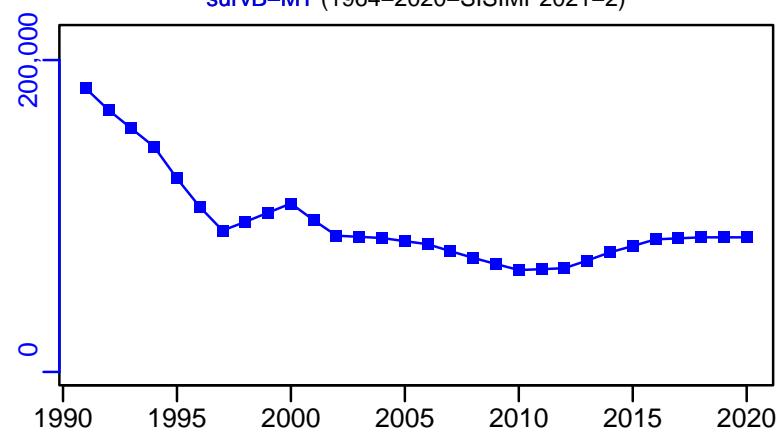
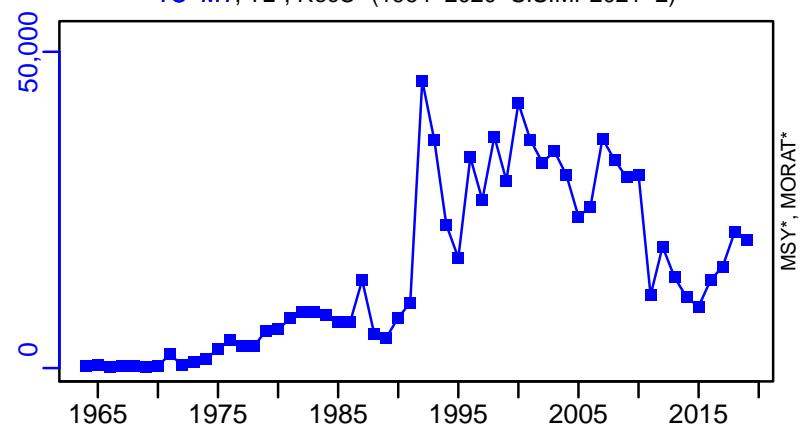


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| — MSY-based BRP      | — Lim BRP    | * No Data |

Pacific cod Aleutian Islands [PCODAI]

TC-MT, TL\*, RecC\* (1964–2020–SISIMP2021–2)

TAC\*, Cpair\*, Cadv\*



CPUE\*

CdivMSY\*

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

## Pacific cod Bering Sea [PCODBS]

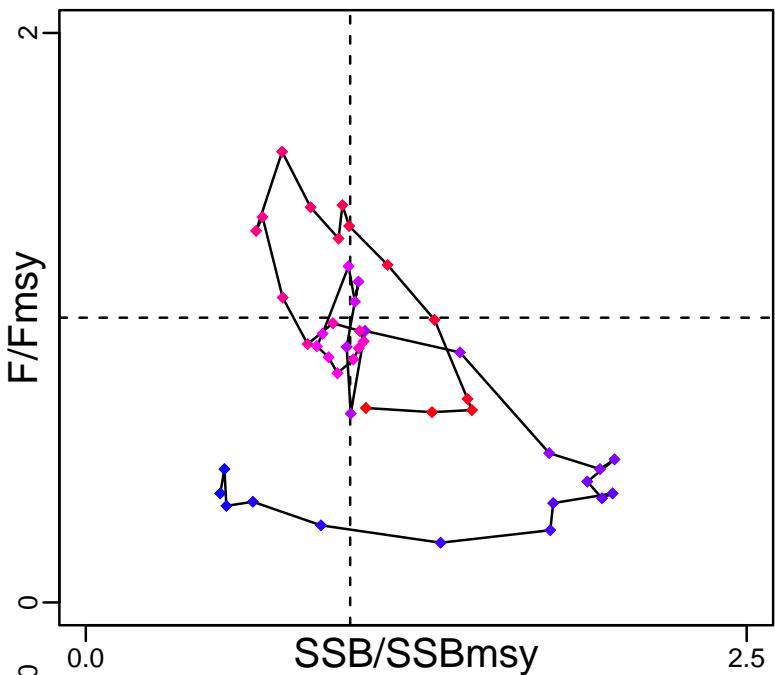
Metadata	
<b>Scientific Name</b>	Gadus macrocephalus
<b>Current Assess ID</b>	AFSC-PCODBS-1977-2021-SISIMP2022
<b>Area</b>	Bering Sea
<b>Management Authority</b>	National Marine Fisheries Service, US national management
<b>Assessor</b>	Alaska Fisheries Science Center
<b>Asmts in RAM</b>	2015, 2016, 2017, 2018, 2019, 2020, 2021

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	SSBmsy-MT	2021	240,366
<b>Fmsy</b>	Fmsy-1/yr	2021	0.41
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	Flim-1/yr	2020	0.363
<b>ERlim</b>	-	-	-

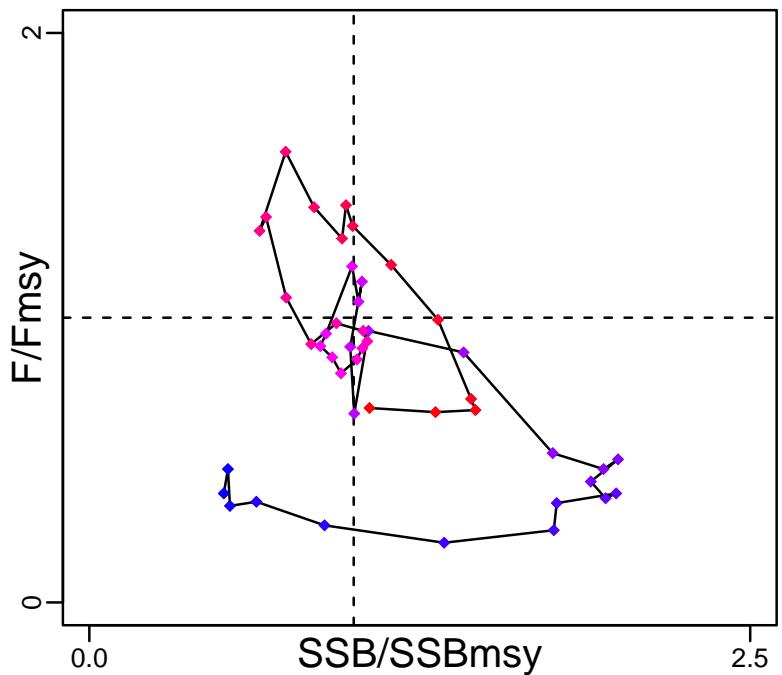
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2015	1,670,000	-	0+	
<b>SSB</b>	SSB-MT	2021	254,718	Females	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2021	501,019,000	-	0	
<b>F</b>	F-1/yr	2021	0.28	-	-	
<b>ER</b>	ER-calc-ratio	2015	0.16	-	-	
<b>TC</b>	TC-MT	2021	155,639			
<b>TL</b>	-	-	-			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2021	1.06			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2021	0.683			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

### Pacific cod Bering Sea [PCODBS]

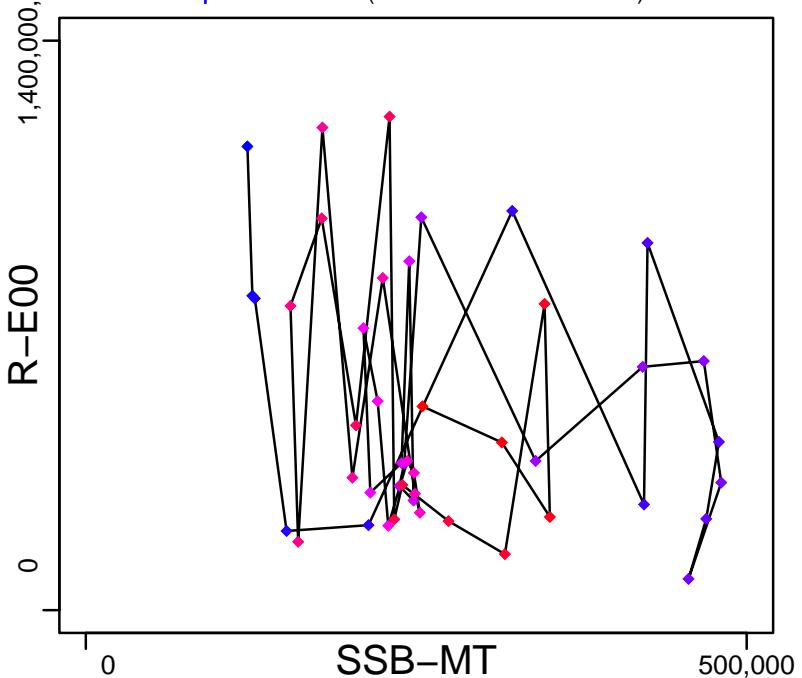
Kobe MSYpref (1977–2021–SISIMP2022)



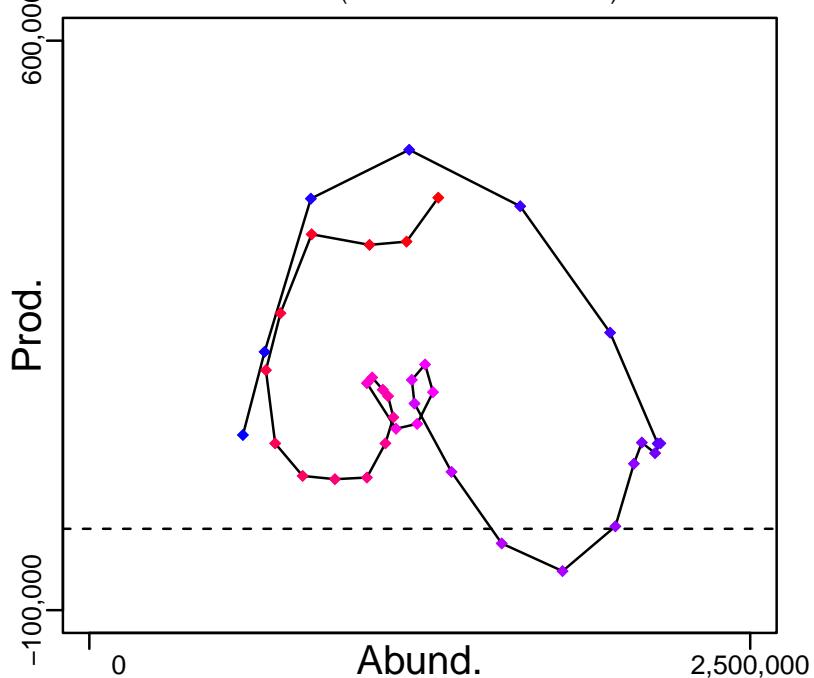
Kobe MGTpref (1977–2021–SISIMP2022)



Spawner Recruit (1977–2021–SISIMP2022)



Production (1977–2015–SISIMP2016)

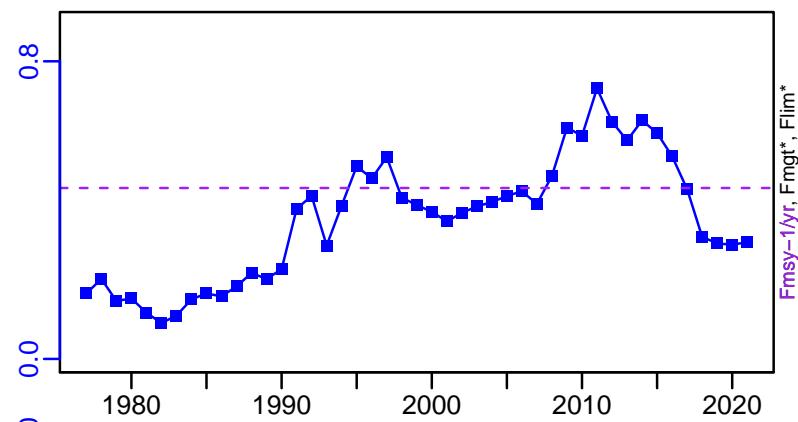
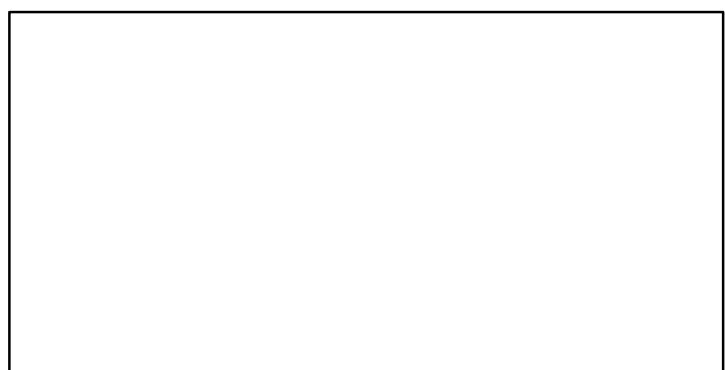
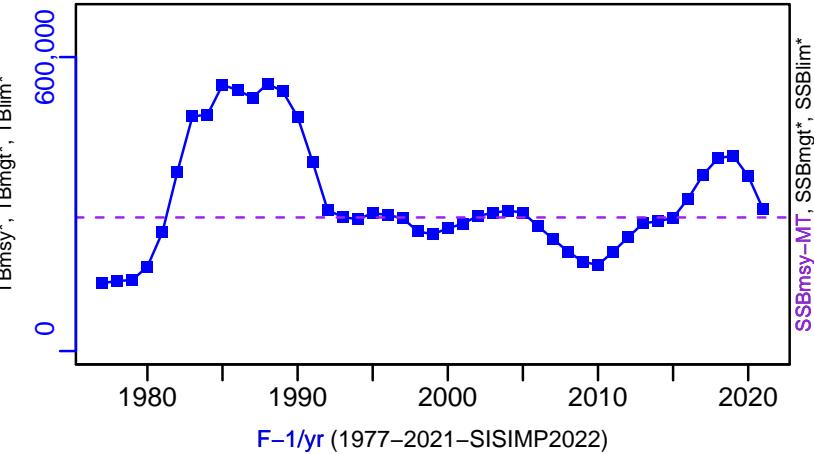
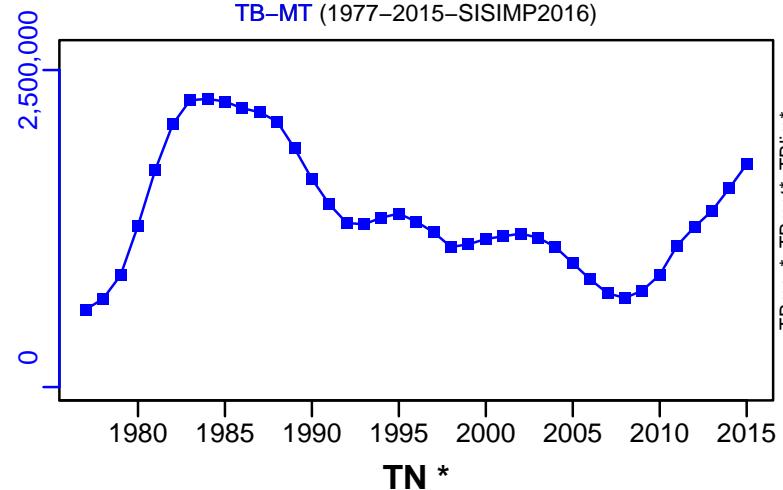


◆ Start Year ◆ End Year \* No Data

### Pacific cod Bering Sea [PCODBS]

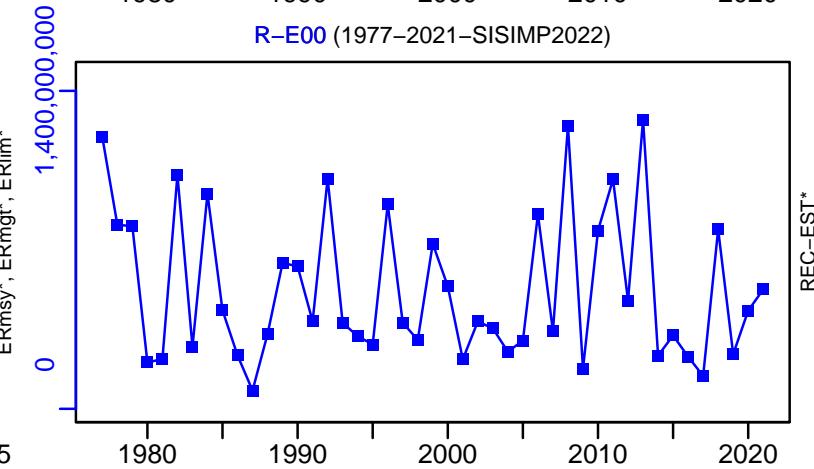
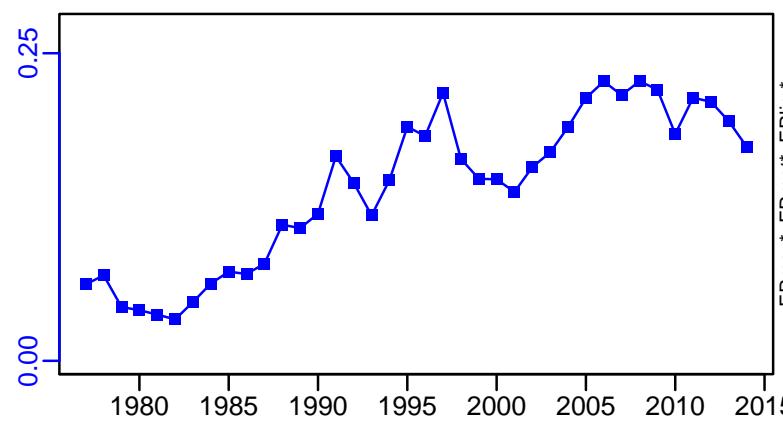
TB-MT (1977–2015–SISIMP2016)

SSB-MT (1977–2021–SISIMP2022)



ER-calc-ratio (1977–2015–SISIMP2016)

R-E00 (1977–2021–SISIMP2022)

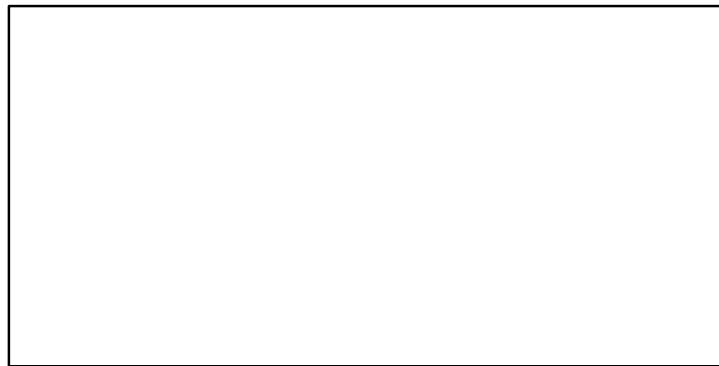
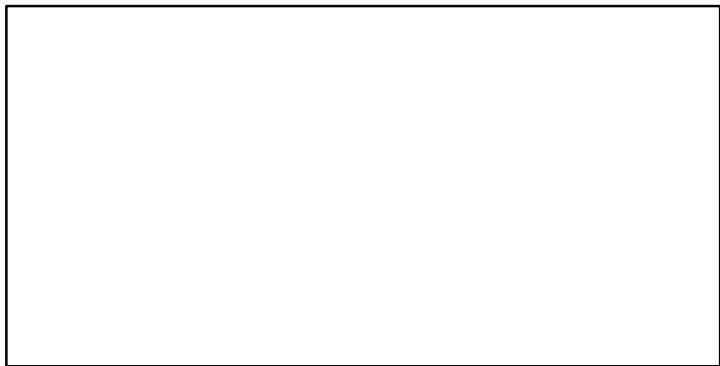
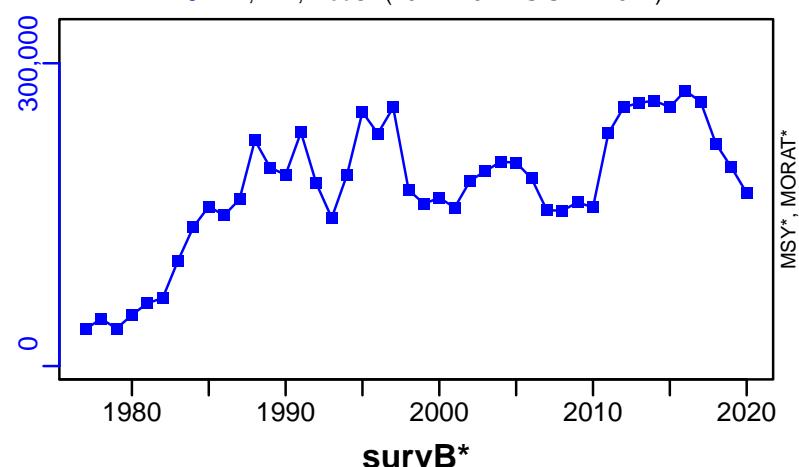


■ Listed time series	— Target BRP	— Rec-Est
— MSY-based BRP	--- Lim BRP	* No Data

Pacific cod Bering Sea [PCODBS]

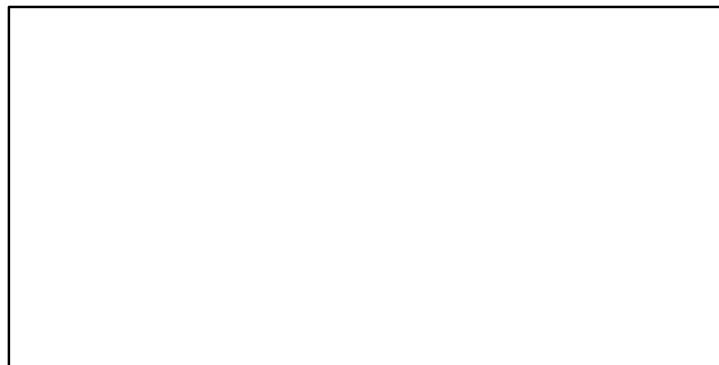
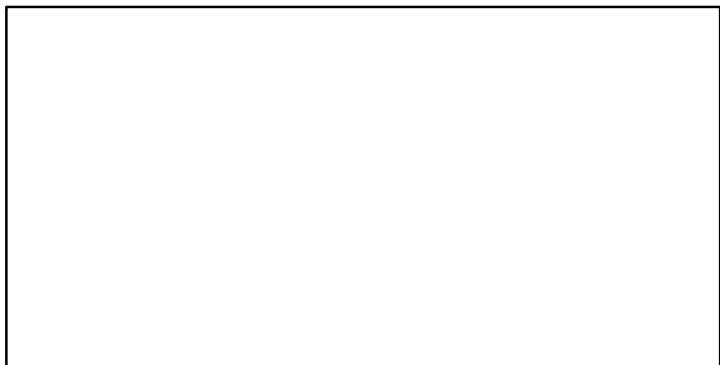
TC-MT, TL\*, RecC\* (1977–2021–SISIMP2022)

TAC\*, Cpair\*, Cadv\*



EFFORT\*

CdivMSY\*



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

## Pacific cod Gulf of Alaska [PCODGA]

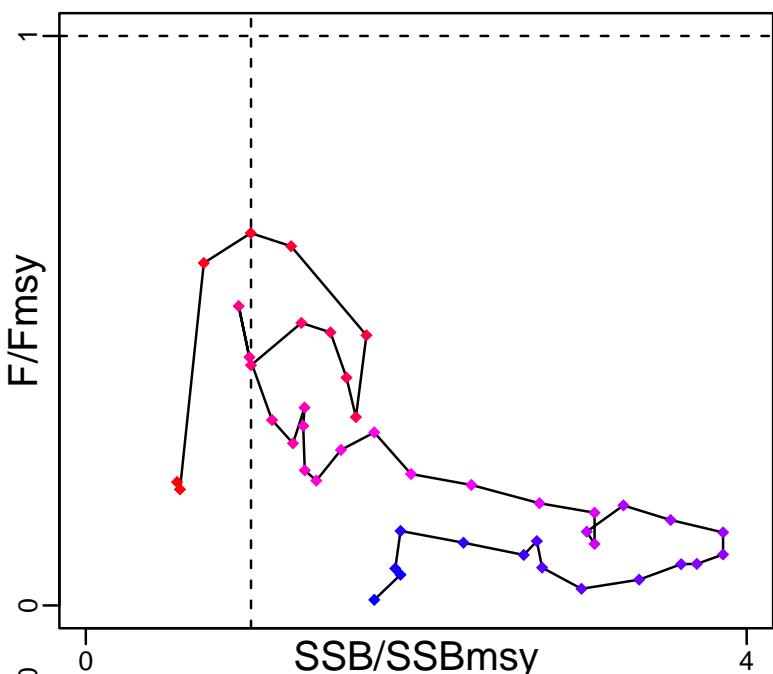
<b>Metadata</b>	
<b>Scientific Name</b>	Gadus macrocephalus
<b>Current Assess ID</b>	AFSC-PCODGA-1977-2020-SISIMP2021-2
<b>Area</b>	Gulf of Alaska
<b>Management Authority</b>	National Marine Fisheries Service, US national management
<b>Assessor</b>	Alaska Fisheries Science Center
<b>Asmts in RAM</b>	2014, 2015, 2016, 2017, 2018, 2019, 2020

<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	2020	63,000
<b>Fmsy</b>	Fmsy-1/yr	2020	0.78
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2014	91,100
<b>Fmgt</b>	Fmgt-1/yr	2015	0.495
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	M-1/yr	2014	0.38
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2019	32,900
<b>Flim</b>	Flim-1/yr	2020	0.45
<b>ERlim</b>	-	-	-

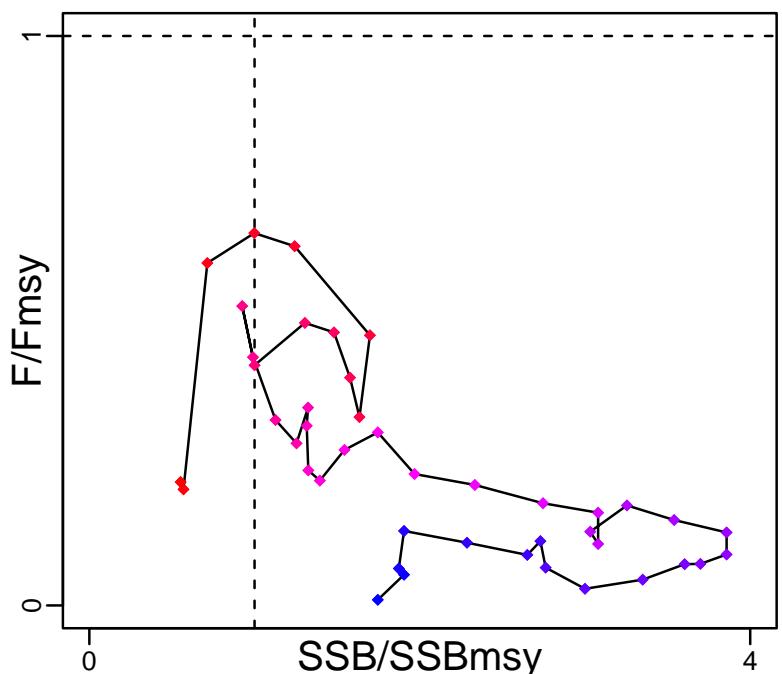
<b>Time Series</b>						
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Curr Value</b>	<b>Sex</b>	<b>Age</b>	
<b>TB</b>	TB-MT	2015	640,000	-	3+	
<b>SSB</b>	SSB-MT	2020	34,600	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2020	$4.64 \times 10^8$	-	0	
<b>F</b>	F-1/yr	2020	0.169	-	-	
<b>ER</b>	ER-calc-ratio	2015	0.125	-	-	
<b>TC</b>	TC-MT	2020	15,700			
<b>TL</b>	-	-	-			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2020	0.549			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2020	0.217			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2014	1.614			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2015	0.218			
<b>ER/ERmgt</b>	-	-	-			

Pacific cod Gulf of Alaska [PCODGA]

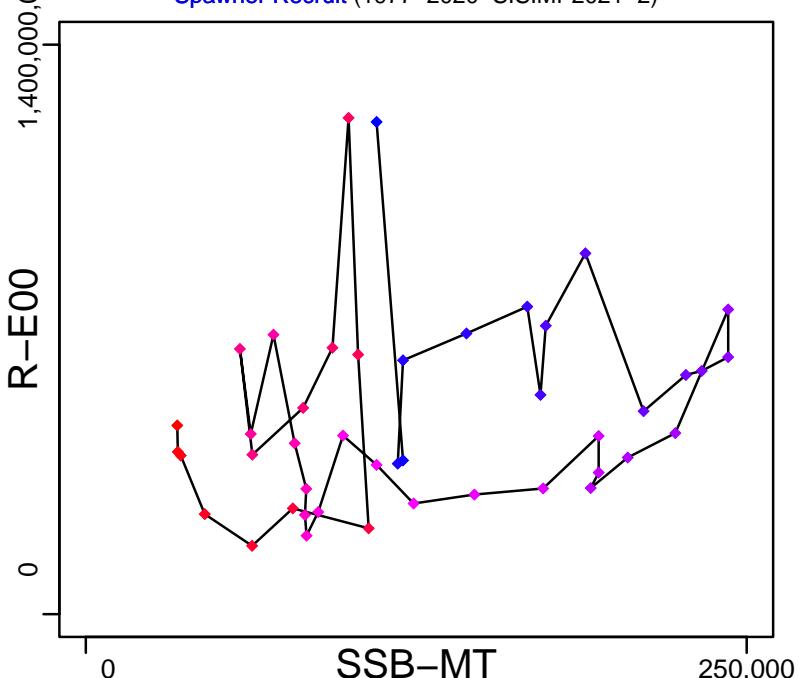
Kobe MSYpref (1977–2020–SISIMP2021–2)



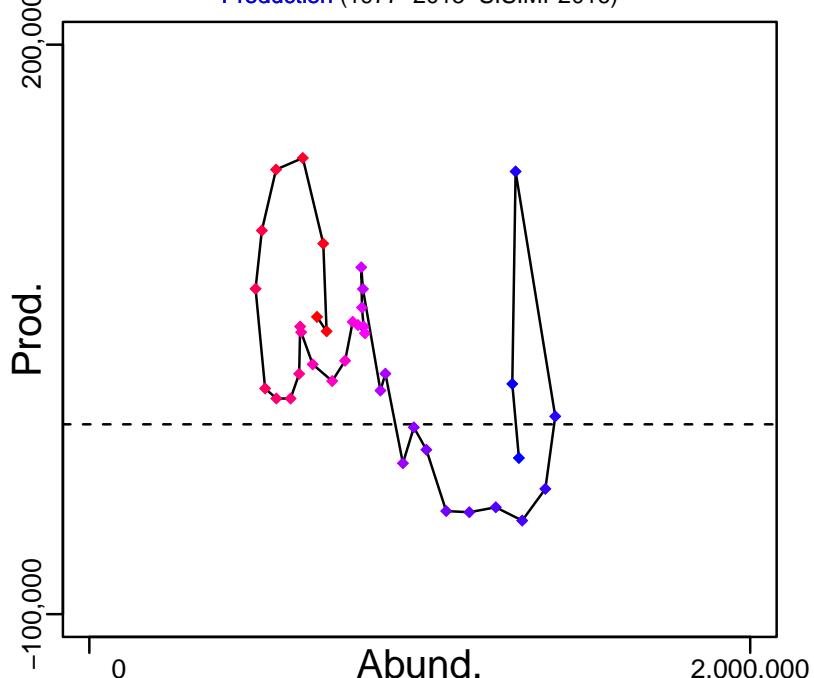
Kobe MGTpref (1977–2020–SISIMP2021–2)



Spawner Recruit (1977–2020–SISIMP2021–2)



Production (1977–2015–SISIMP2016)

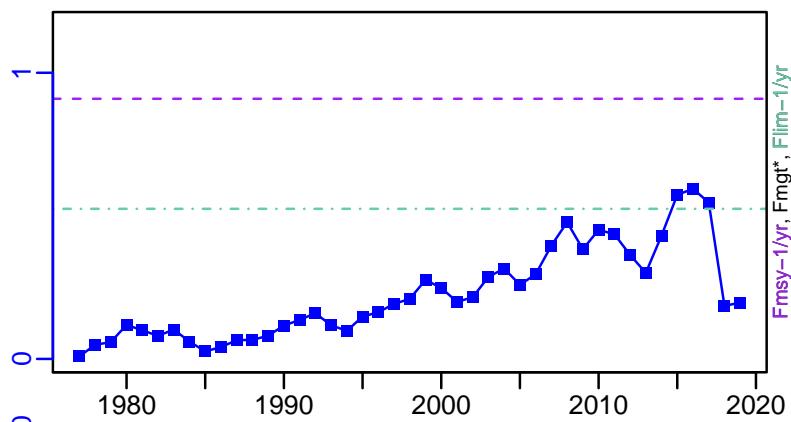
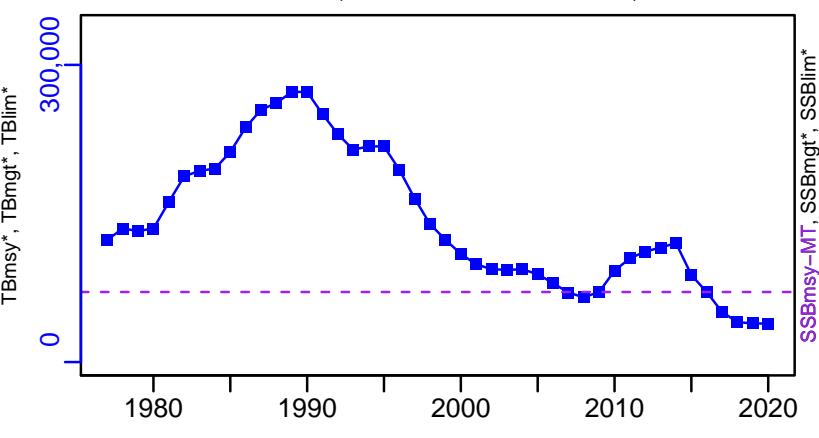
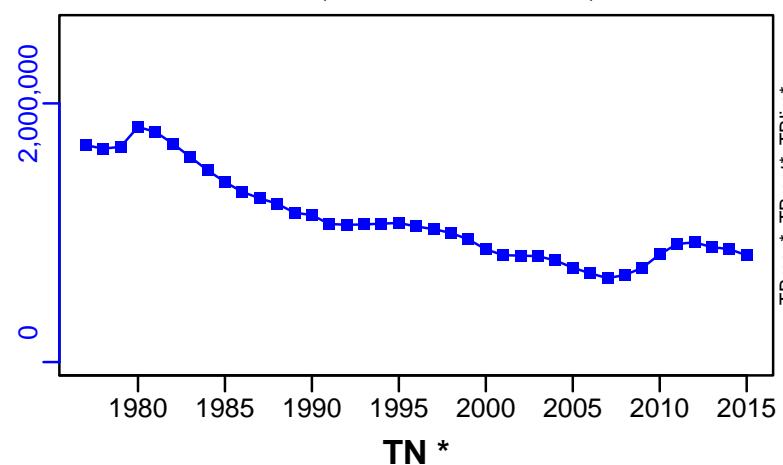


◆ Start Year ◆ End Year \* No Data

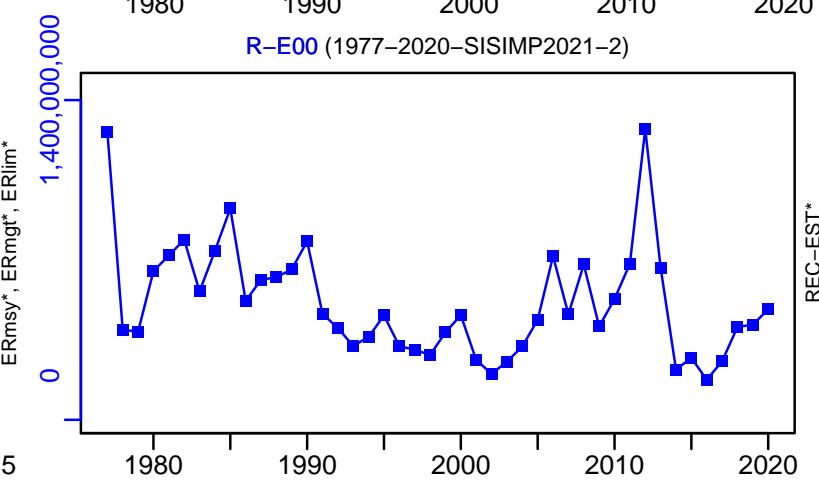
Pacific cod Gulf of Alaska [PCODGA]

TB-MT (1977–2015–SISIMP2016)

SSB-MT (1977–2020–SISIMP2021–2)



ER-calc-ratio (1977–2015–SISIMP2016)

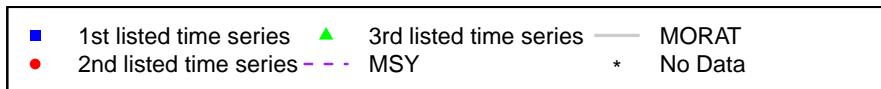
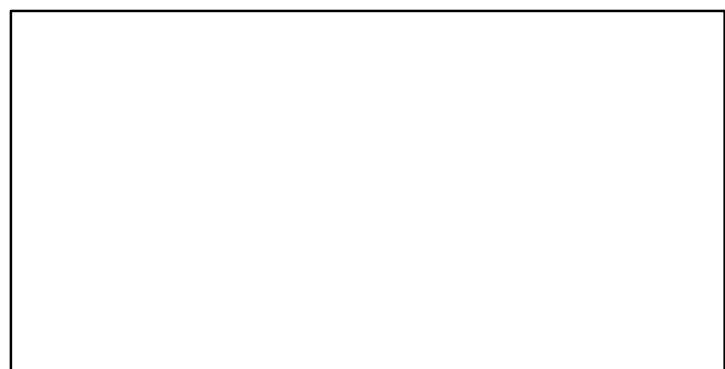
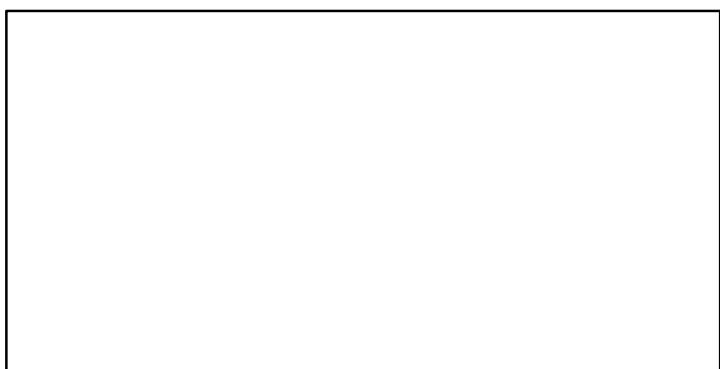
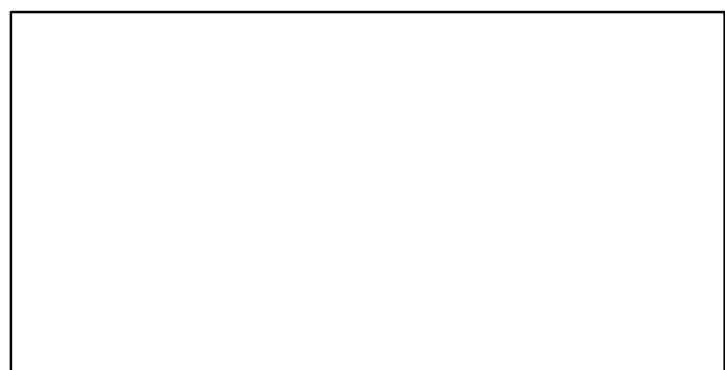
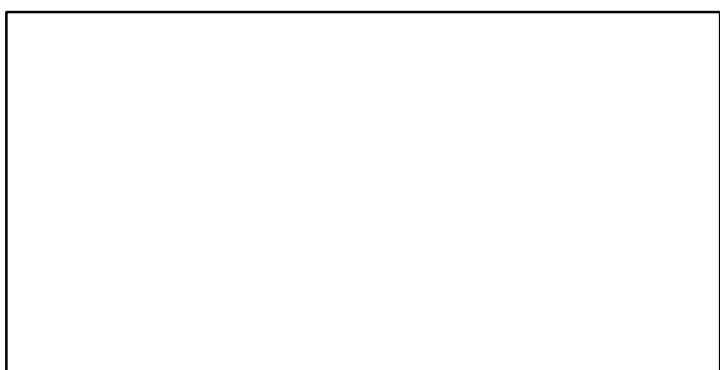
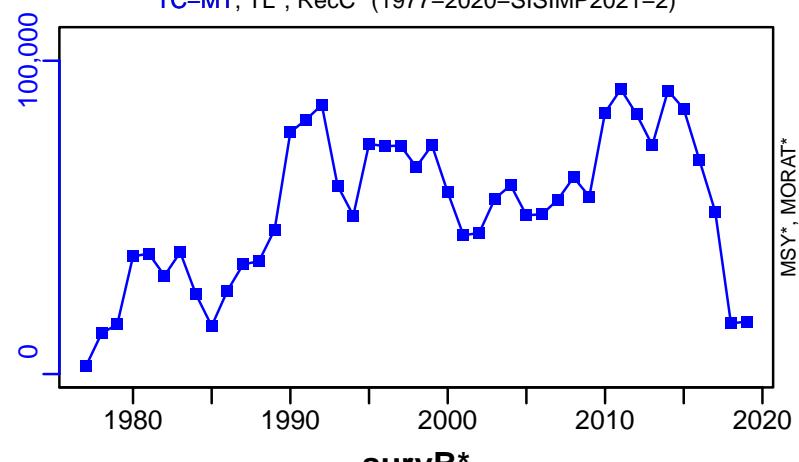


■ Listed time series	— Target BRP	— Rec-Est
- - - MSY-based BRP	- - - Lim BRP	* No Data

Pacific cod Gulf of Alaska [PCODGA]

TC-MT, TL\*, RecC\* (1977–2020–SISIMP2021–2)

TAC\*, Cpair\*, Cadv\*



## Pacific cod Hokkaido [PCODHOKK]

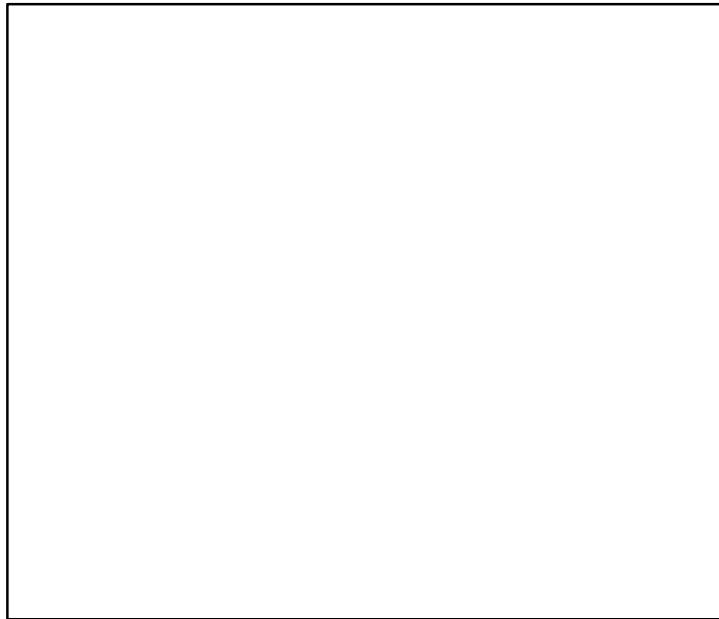
Metadata	
<b>Scientific Name</b>	Gadus macrocephalus
<b>Current Assess ID</b>	FAFRFJ-PCODHOKK-1985-2013-JPNIMP2016
<b>Area</b>	Hokkaido
<b>Management Authority</b>	Fisheries Agency of Japan
<b>Assessor</b>	Fisheries Agency and Fisheries Research Agency of Japan
<b>Asmts in RAM</b>	2013

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>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	M-1/yr	2013	0.313
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

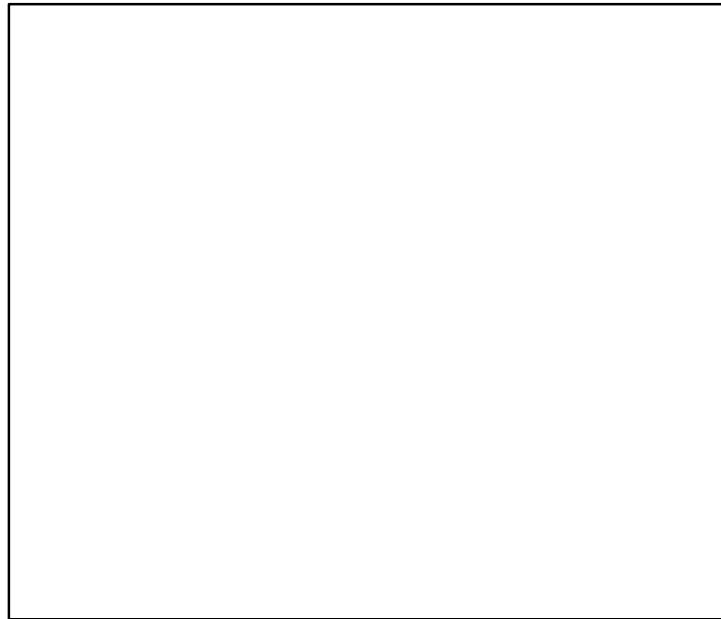
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2013	28,900		
<b>TL</b>	-	-	-		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

Pacific cod Hokkaido [PCODHOKK]

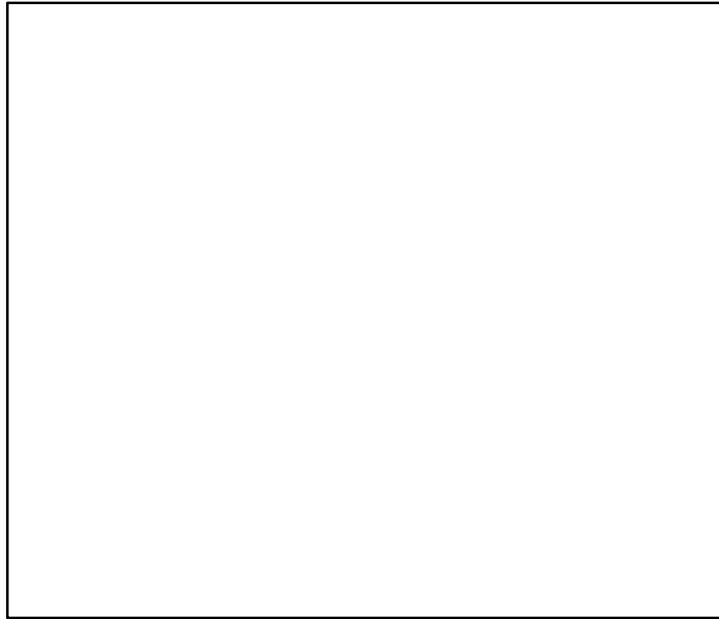
Kobe MSY\*



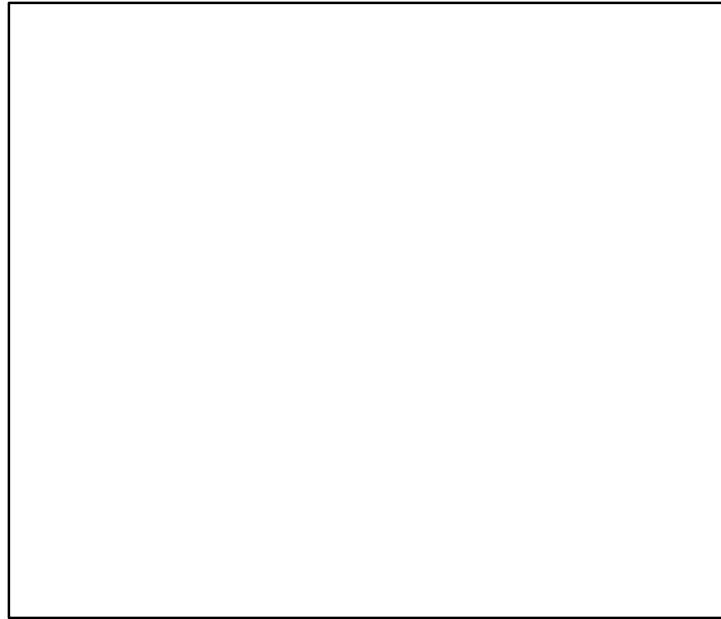
Kobe MGT\*



Spawner Recruit\*



Production\*



◆ Start Year ♦ End Year \* No Data

Pacific cod Hokkaido [PCODHOKK]

**TB\***



**SSB\***



**TN \***



**F\***



**ER\***



**Recruits\***

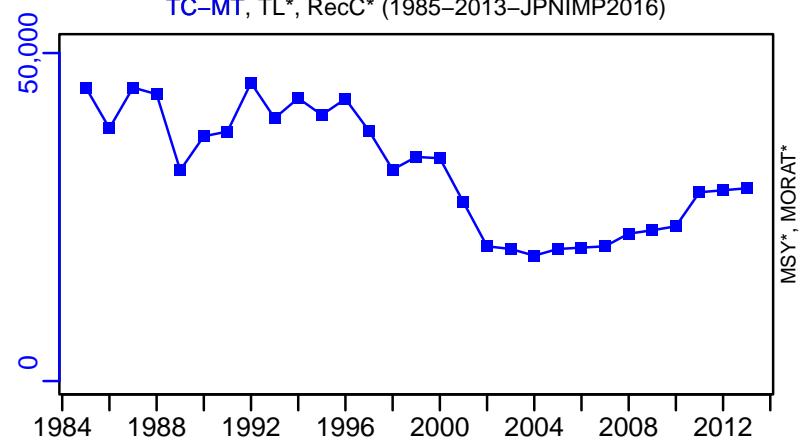


- |                      |                  |           |
|----------------------|------------------|-----------|
| ■ Listed time series | - - - Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP    | * No Data |

Pacific cod Hokkaido [PCODHOKK]

TC-MT, TL\*, RecC\* (1985–2013–JPNIMP2016)

TAC\*, Cpair\*, Cadv\*



survB\*

CPUE\*

EFFORT\*

CdivMSY\*

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

## Pacific cod North Pacific [PCODNPAC]

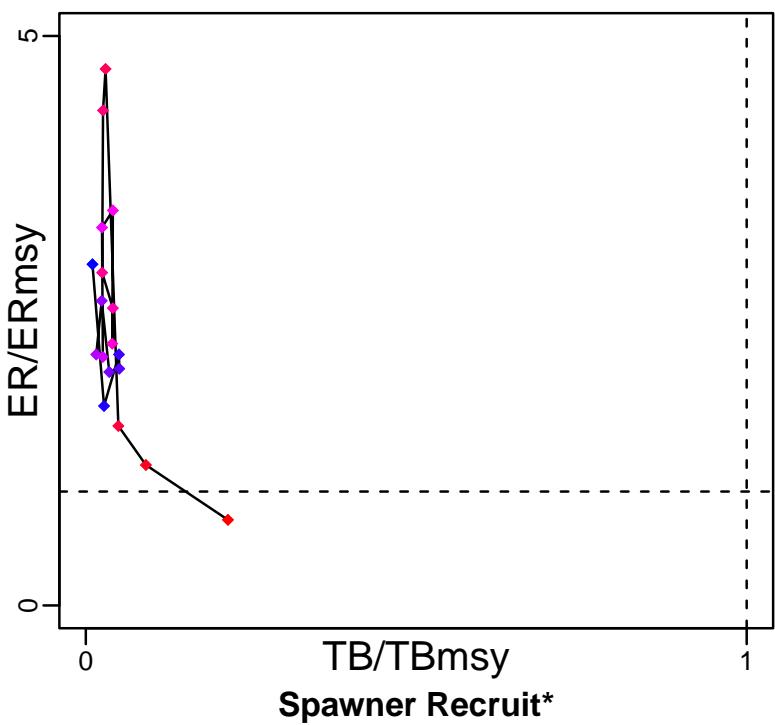
Metadata	
<b>Scientific Name</b>	Gadus macrocephalus
<b>Current Assess ID</b>	FAFRFJ-PCODNPAC-1975-2014-JPNIMP2016
<b>Area</b>	North Pacific
<b>Management Authority</b>	Fisheries Agency of Japan
<b>Assessor</b>	Fisheries Agency and Fisheries Research Agency of Japan
<b>Asmts in RAM</b>	2014

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	TBmsy-MT	2014	1,297,226
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-ratio	2014	0.145
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-calc-MT	2014	188,098
<b>M</b>	M-1/yr	2014	0.313
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

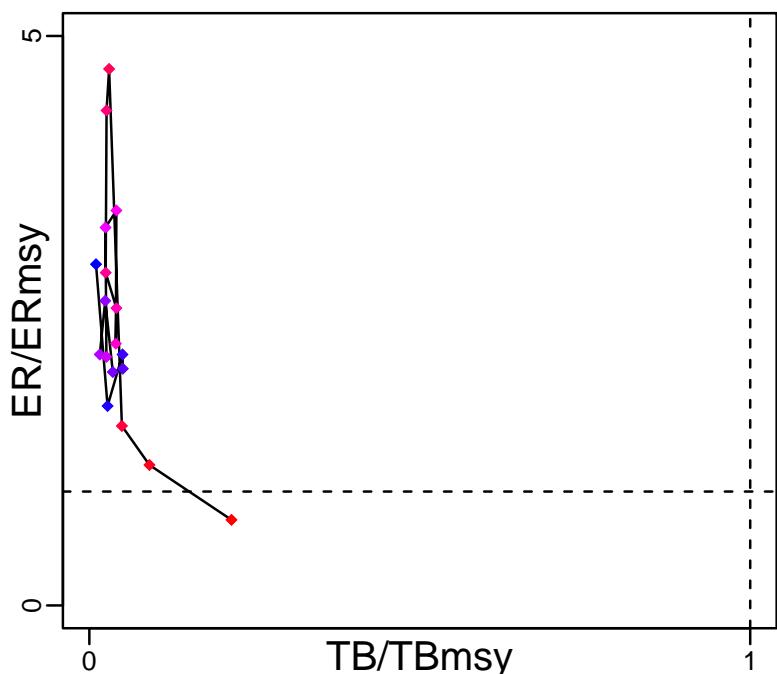
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2014	267,000	-	1	
<b>SSB</b>	-	-	-	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	-	-	-	-	-	
<b>F</b>	-	-	-	-	-	
<b>ER</b>	ER-calc-ratio	2014	0.109	-	-	
<b>TC</b>	TC-MT	2014	30,400			
<b>TL</b>	-	-	-			
<b>TB/TBmsy</b>	TB-MT/TBmsy-MT	2014	0.206			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	-	-	-			
<b>ER/ERmsy</b>	ER-calc-ratio/ERmsy-ratio	2014	0.751			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

Pacific cod North Pacific [PCODNPAC]

Kobe MSYpref (1975–2014–JPNIMP2016)

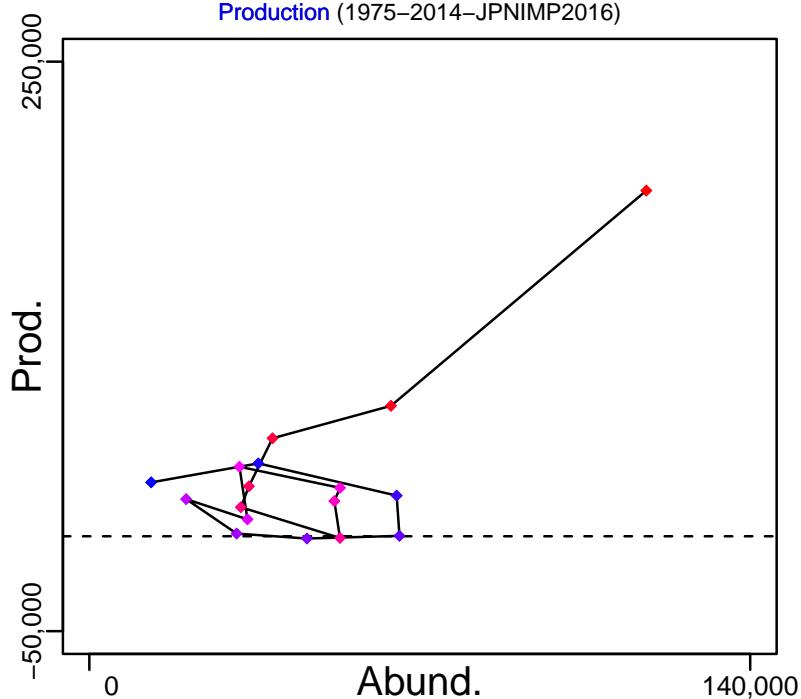


Kobe MGTpref (1975–2014–JPNIMP2016)



Spawner Recruit\*

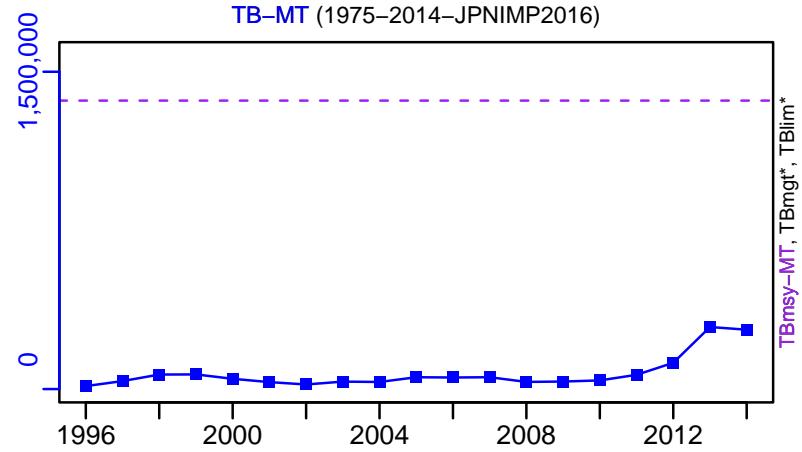
Production (1975–2014–JPNIMP2016)



♦ Start Year   ♦ End Year   \* No Data

Pacific cod North Pacific [PCODNPAC]

TB-MT (1975–2014–JPNIMP2016)



SSB\*



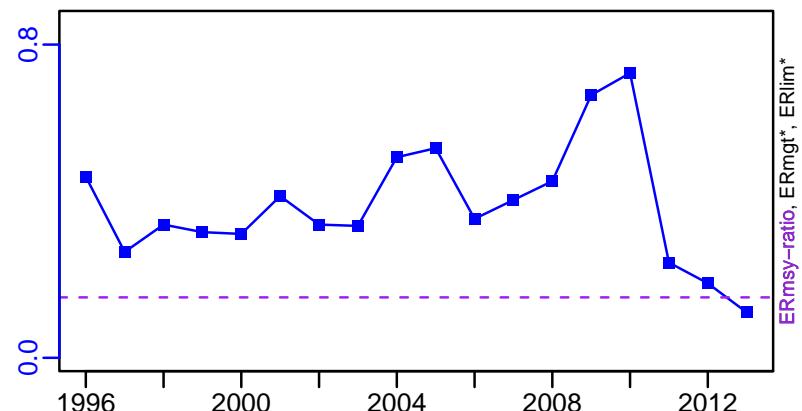
TN \*



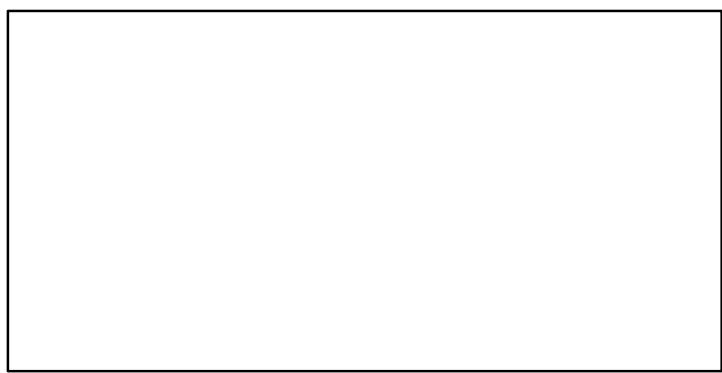
F\*



ER-calc-ratio (1975–2014–JPNIMP2016)



Recruits\*

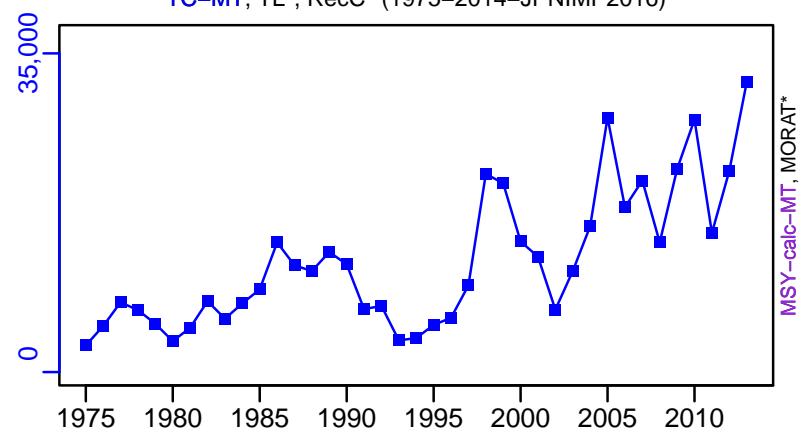


■ Listed time series	— Target BRP	— Rec-Est
- - - MSY-based BRP	··· Lim BRP	* No Data

Pacific cod North Pacific [PCODNPAC]

TC-MT, TL\*, RecC\* (1975–2014–JPNIMP2016)

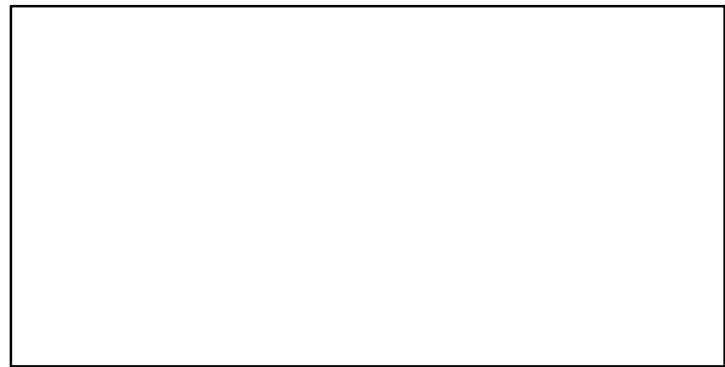
TAC\*, Cpair\*, Cadv\*



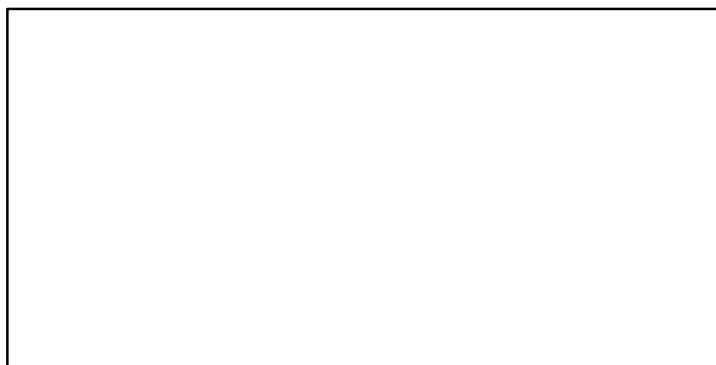
survB\*

MSY-calc-MT, MORAT\*

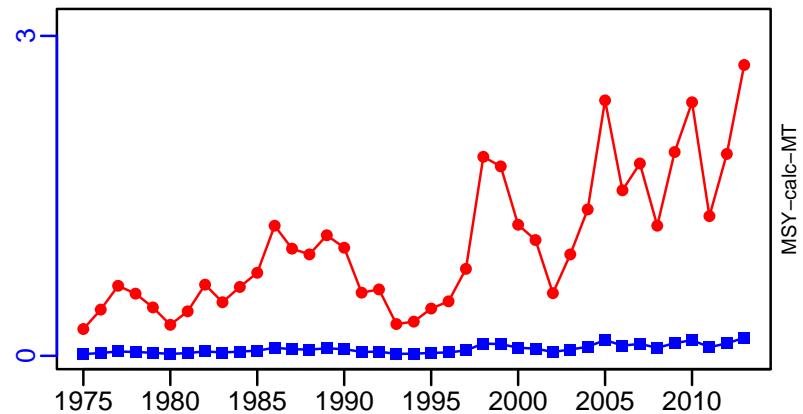
CPUE\*



EFFORT\*



TC-MT/MSY-calc-MT, CdivMEANC-ratio, (1975–2014–JPNIMP2016)



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

## Pacific cod Sea of Japan [PCODSOJ]

<b>Metadata</b>	
<b>Scientific Name</b>	Gadus macrocephalus
<b>Current Assess ID</b>	FAFRFJ-PCODSOJ-1964-2013-JPNIMP2016
<b>Area</b>	Sea of Japan
<b>Management Authority</b>	Fisheries Agency of Japan
<b>Assessor</b>	Fisheries Agency and Fisheries Research Agency of Japan
<b>Asmts in RAM</b>	2013

<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<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>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	M-1/yr	2013	0.313
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<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>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2013	3920		
<b>TL</b>	-	-	-		
<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\***

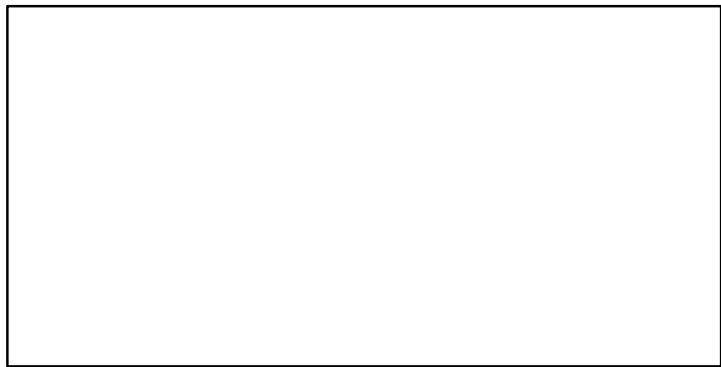
**Spawner Recruit\***

**Production\***

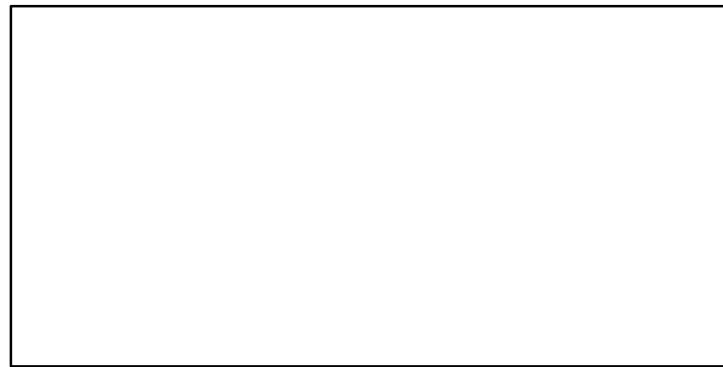
◆ Start Year ♦ End Year \* No Data

Pacific cod Sea of Japan [PCODSOJ]

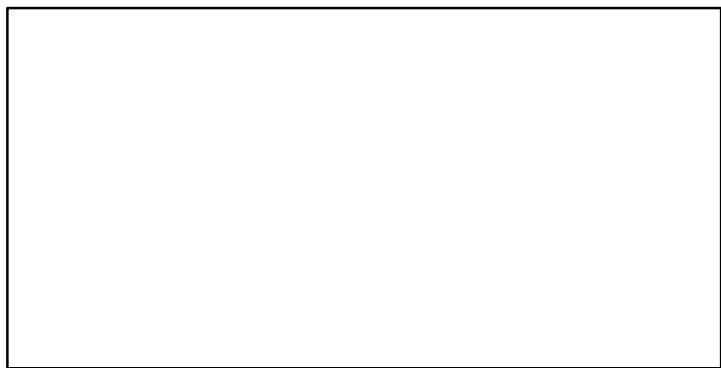
**TB\***



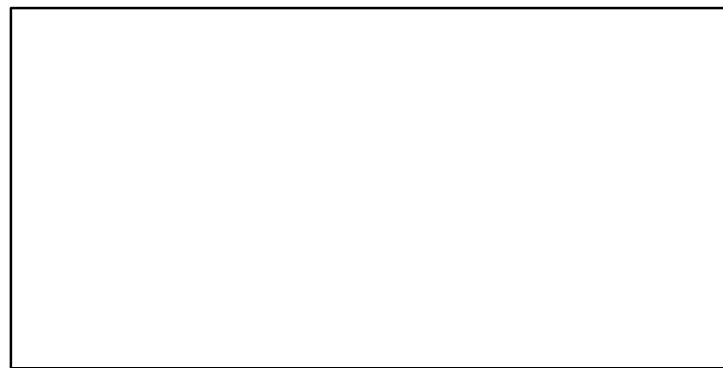
**SSB\***



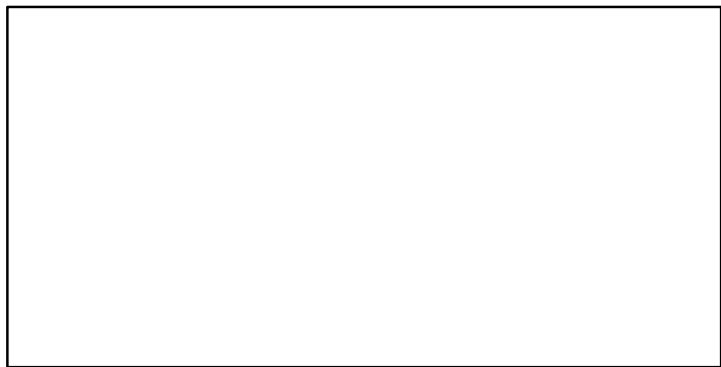
**TN \***



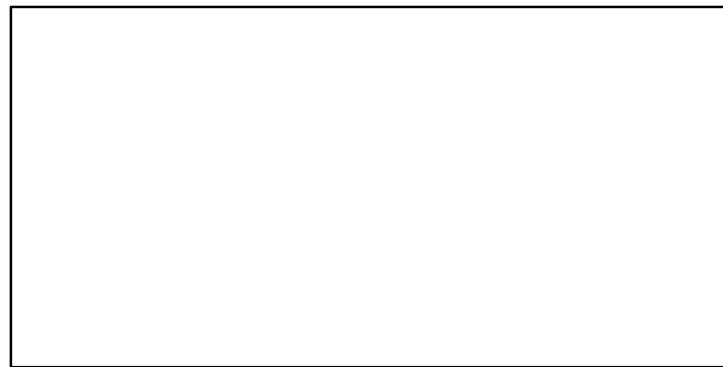
**F\***



**ER\***



**Recruits\***

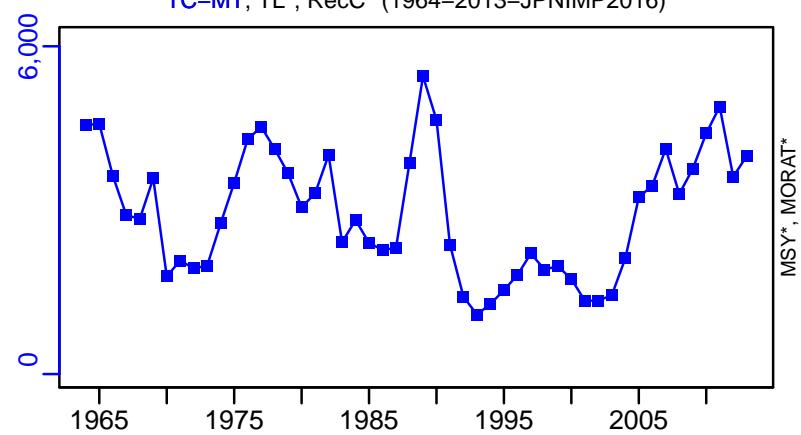


- |                      |                  |           |
|----------------------|------------------|-----------|
| ■ Listed time series | - - - Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP    | * No Data |

Pacific cod Sea of Japan [PCODSOJ]

TC-MT, TL\*, RecC\* (1964–2013–JPNIMP2016)

TAC\*, Cpair\*, Cadv\*



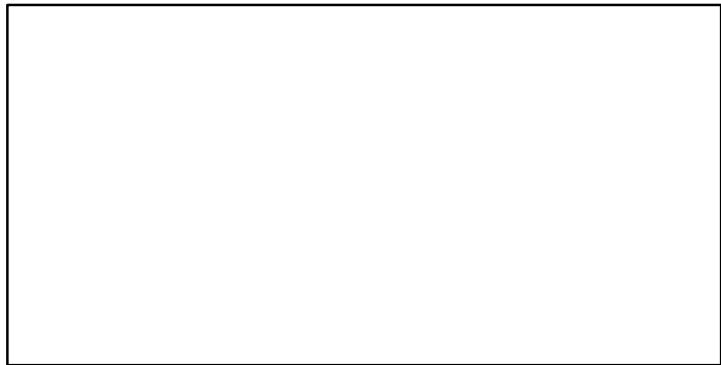
survB\*



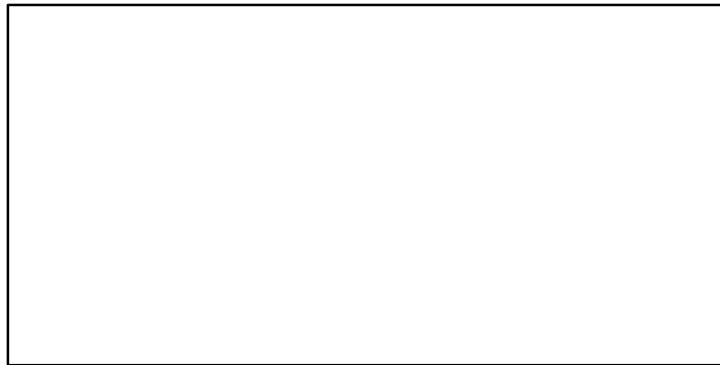
CPUE\*



EFFORT\*



CdivMSY\*



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

## Pacific cod West Coast of Vancouver Island [PCODWCVANI]

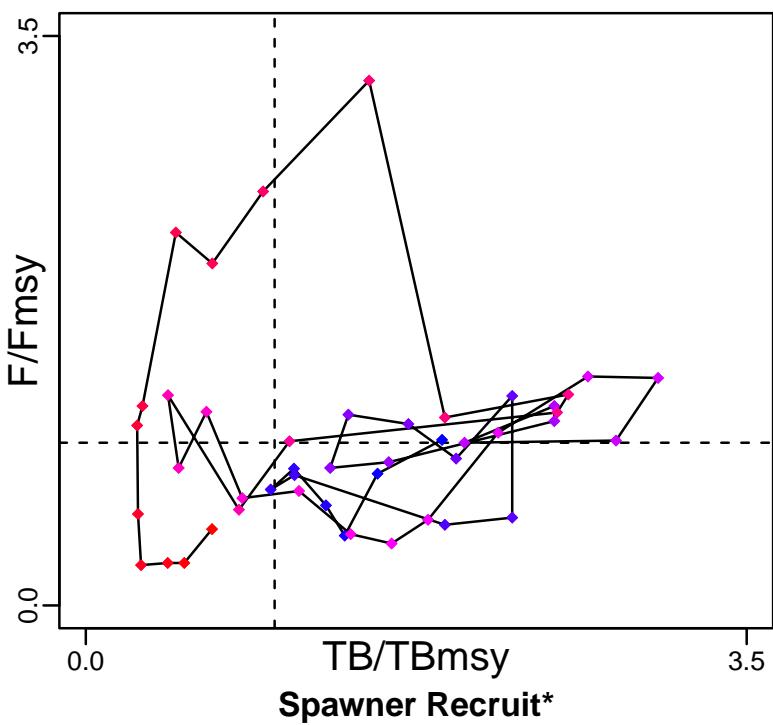
Metadata	
<b>Scientific Name</b>	Gadus macrocephalus
<b>Current Assess ID</b>	DFO-PAC-PCODWCVANI-1953-2019-ASHBROOK
<b>Area</b>	West Coast of Vancouver Island
<b>Management Authority</b>	Department of Fisheries and Oceans, Canada national management
<b>Assessor</b>	Department of Fisheries and Oceans - Pacific Region
<b>Asmts in RAM</b>	2019, 2002

Reference Points			
Type	ID	Asmt Year	Value
<b>TB<sub>msy</sub></b>	TB <sub>msy</sub> -MT	2002	6731
<b>SSB<sub>msy</sub></b>	-	-	-
<b>F<sub>msy</sub></b>	F <sub>msy</sub> -1/yr	2002	0.226
<b>ER<sub>msy</sub></b>	-	-	-
<b>TB<sub>mgt</sub></b>	TB <sub>mgt</sub> -MT	2019	24,982
<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	2019	14,549
<b>SSB<sub>0</sub></b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	M-1/yr	2002	0.579
<b>TB<sub>lim</sub></b>	TB <sub>lim</sub> -MT	2019	8108
<b>SSB<sub>lim</sub></b>	-	-	-
<b>F<sub>lim</sub></b>	-	-	-
<b>ER<sub>lim</sub></b>	-	-	-

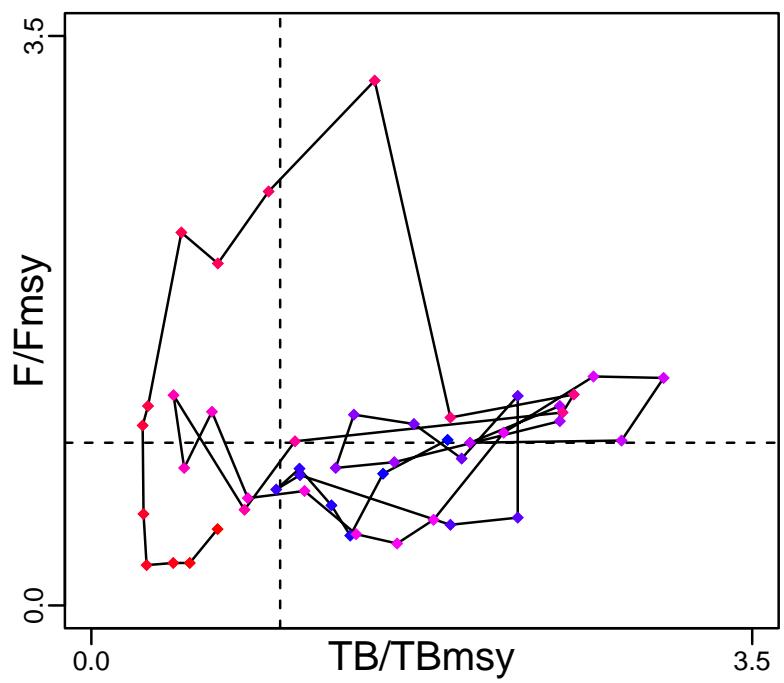
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2019	16,817	-	2+	
<b>SSB</b>	-	-	-	-	-	
<b>TN</b>	TN-E00	2002	5,140,000	-	-	
<b>R</b>	R-E00	2019	2,875,481	-	2+	
<b>F</b>	F-1/yr	2002	0.106	Both	2+	
<b>ER</b>	ER-calc-ratio	2019	0.008	-	-	
<b>TC</b>	-	-	-			
<b>TL</b>	TL-MT	2019	165			
<b>TB/TB<sub>msy</sub></b>	TB-MT/TB <sub>msy</sub> -MT	2002	1.037			
<b>SSB/SSB<sub>msy</sub></b>	-	-	-			
<b>F/F<sub>msy</sub></b>	F-1/yr/F <sub>msy</sub> -1/yr	2002	0.469			
<b>ER/ER<sub>msy</sub></b>	-	-	-			
<b>TB/TB<sub>mgt</sub></b>	TB-MT/TB <sub>mgt</sub> -MT	2019	0.673			
<b>SSB/SSB<sub>mgt</sub></b>	-	-	-			
<b>F/F<sub>mgt</sub></b>	-	-	-			
<b>ER/ER<sub>mgt</sub></b>	-	-	-			

Pacific cod West Coast of Vancouver Island [PCODWCVANI]

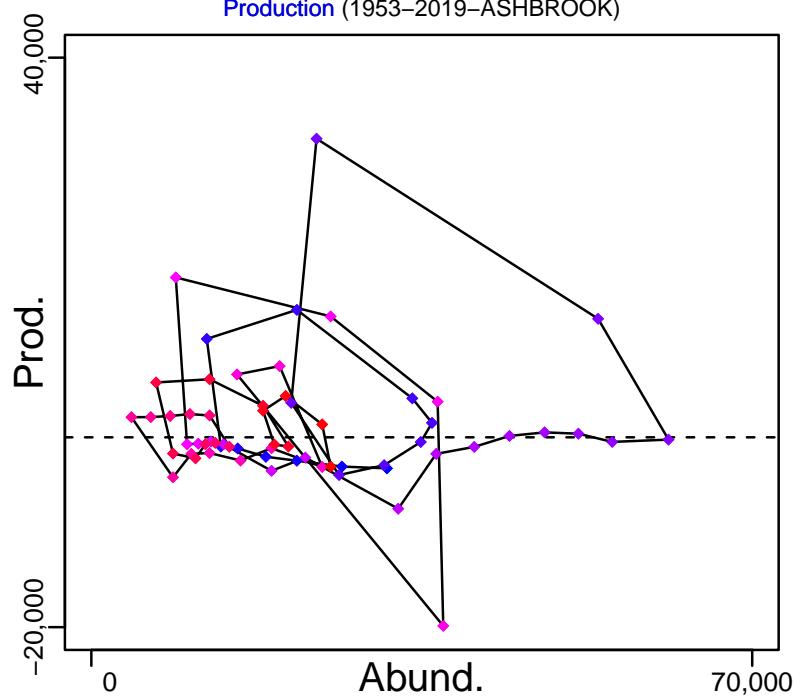
Kobe MSYpref (1956–2002–COLLIE)



Kobe MGTpref (1956–2002–COLLIE)



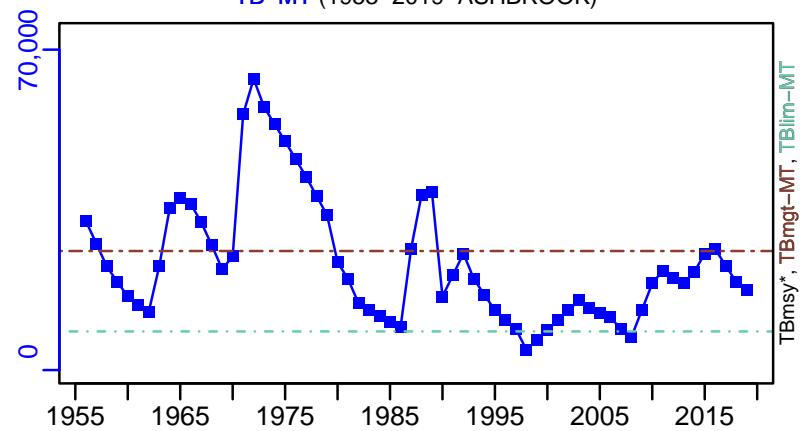
Production (1953–2019–ASHBROOK)



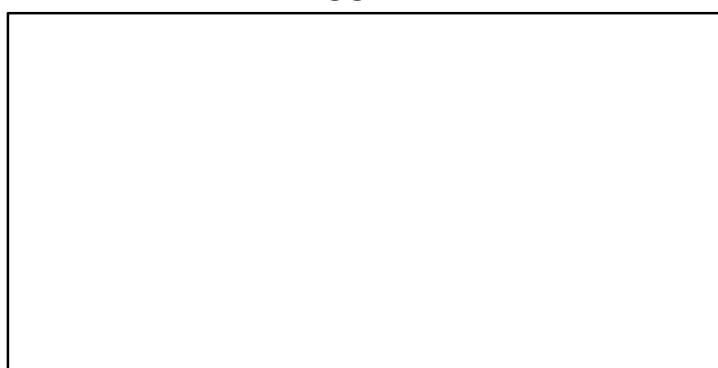
◆ Start Year   ◆ End Year   \* No Data

Pacific cod West Coast of Vancouver Island [PCODWCVANI]

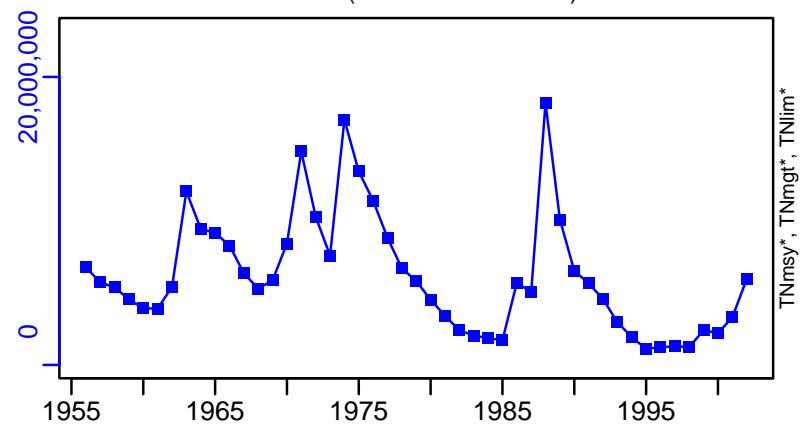
TB-MT (1953–2019–ASHBROOK)



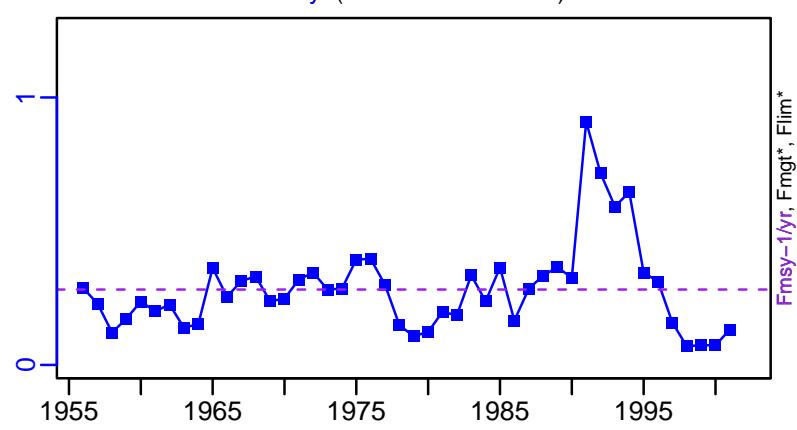
SSB\*



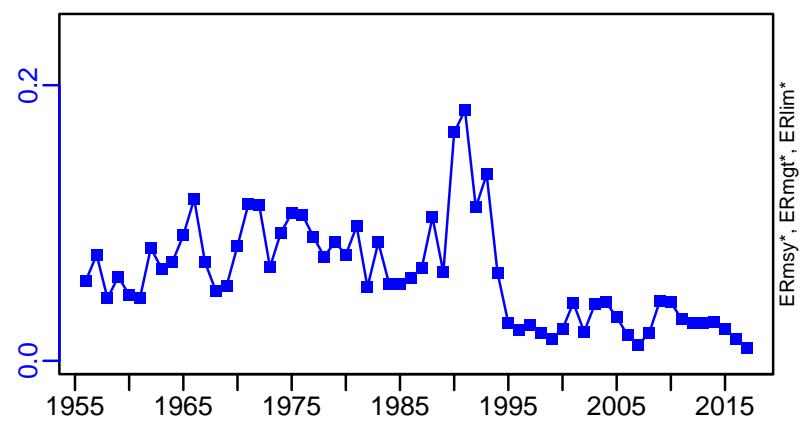
TN-E00 (1956–2002–COLLIE)



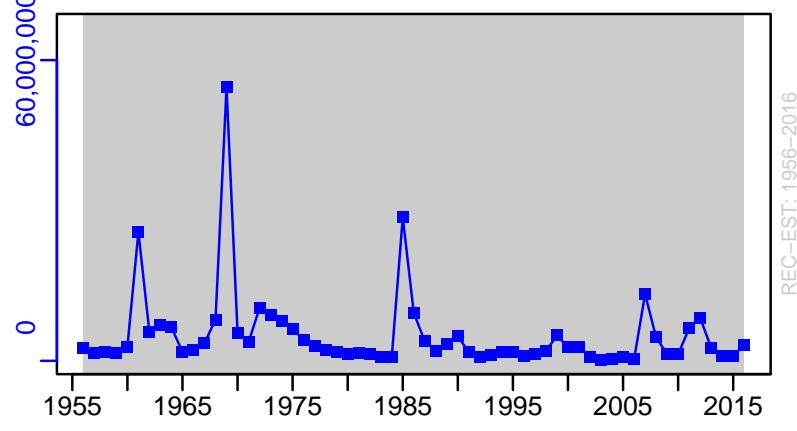
F-1/yr (1956–2002–COLLIE)



ER-calc-ratio (1953–2019–ASHBROOK)



R-E00 (1953–2019–ASHBROOK)

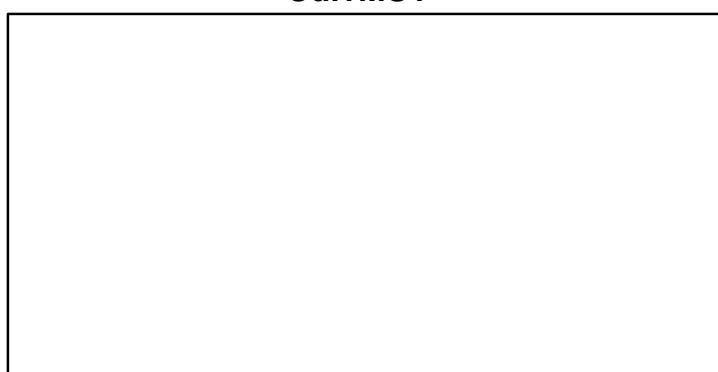
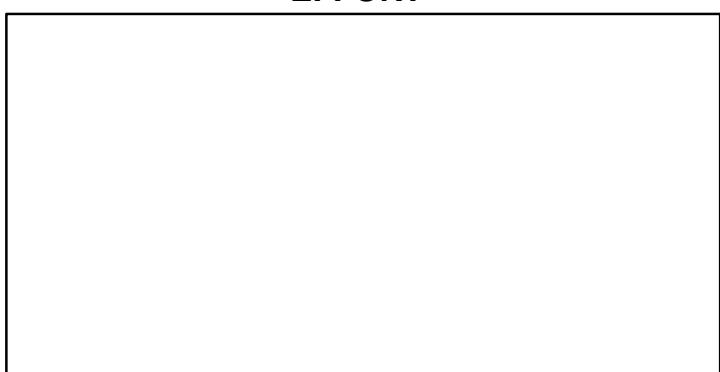
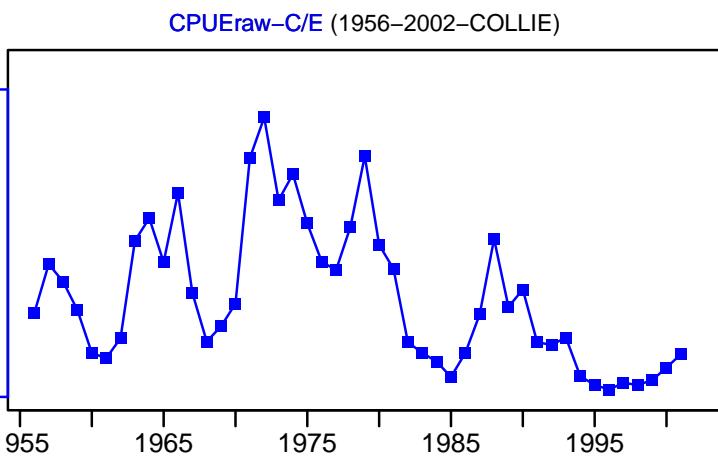
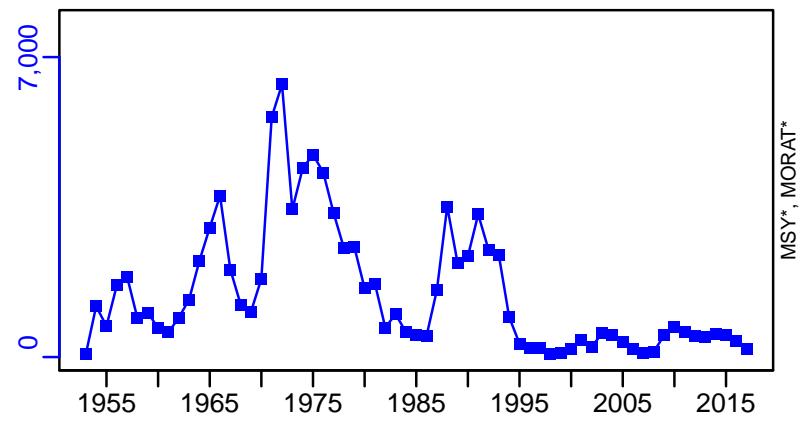


■ Listed time series	— Target BRP	— Rec-Est
— MSY-based BRP	--- Lim BRP	* No Data

Pacific cod West Coast of Vancouver Island [PCODWCVANI]

TL-MT, TC\*, RecC\* (1953–2019–ASHBROOK)

TAC\*, Cpair\*, Cadv\*



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

## Pacific hake Pacific Coast [PHAKEPCOAST]

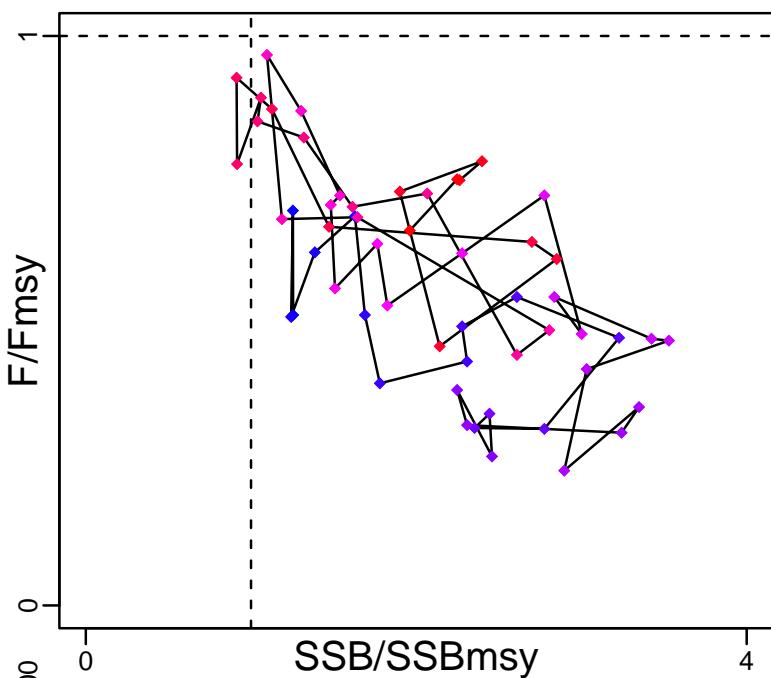
Metadata	
<b>Scientific Name</b>	Merluccius productus
<b>Current Assess ID</b>	PFMC-PHAKEPCOAST-1966-2021-SISIMP2021-2
<b>Area</b>	Pacific Coast
<b>Management Authority</b>	National Marine Fisheries Service, US national management
<b>Assessor</b>	Pacific Fishery Management Council
<b>Asmts in RAM</b>	2015, 2016, 2017, 2018, 2019, 2020, 2021

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	TBmsy-calc-MT	2016	1,222,892
<b>SSBmsy</b>	SSBmsy-MT	2021	663,000
<b>Fmsy</b>	Fmsy-1/yr	2021	0.6
<b>ERmsy</b>	ERmsy-ratio	2016	0.332
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2016	959,000
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	ERmgt-ratio	2016	0.19
<b>TB0</b>	-	-	-
<b>SSB0</b>	SSB0-MT	2016	2,397,000
<b>MSY</b>	MSY-MT	2021	269,000
<b>M</b>	M-1/yr	2016	0.226
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2021	166,000
<b>Flim</b>	Flim-1/yr	2021	0.6
<b>ERlim</b>	-	-	-

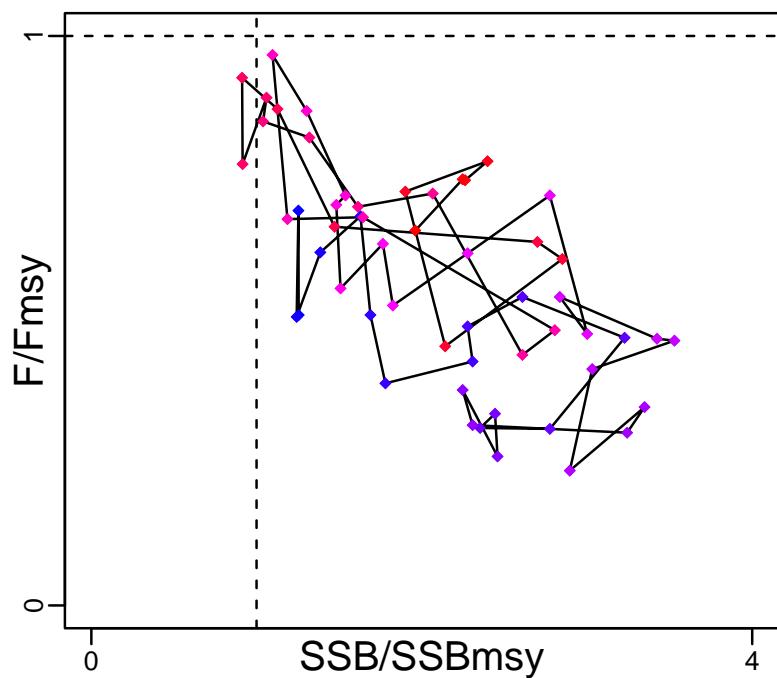
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2018	3,557,240	-	-
<b>SSB</b>	SSB-MT	2021	981,000	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2021	$8.1 \times 10^8$	-	0
<b>F</b>	F-1/yr	2021	0.395	-	-
<b>ER</b>	ER-calc-ratio	2018	0.097	-	-
<b>TC</b>	TC-MT	2021	379,000		
<b>TL</b>	-	-	-		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2021	1.48		
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2021	0.658		
<b>ER/ERmsy</b>	ER-ratio/ERmsy-ratio	2016	0.202		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2016	1.971		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

Pacific hake Pacific Coast [PHAKEPCOAST]

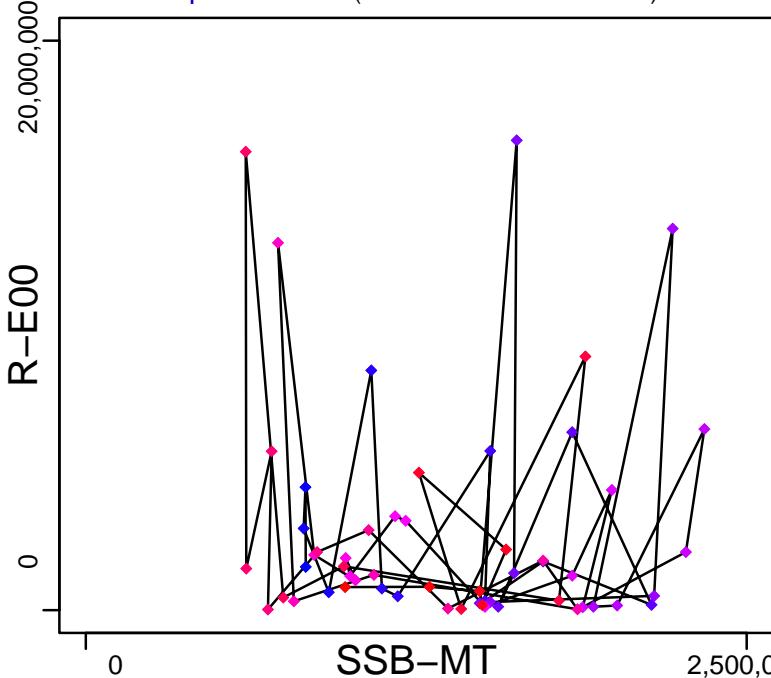
Kobe MSYpref (1966–2021–SISIMP2021–2)



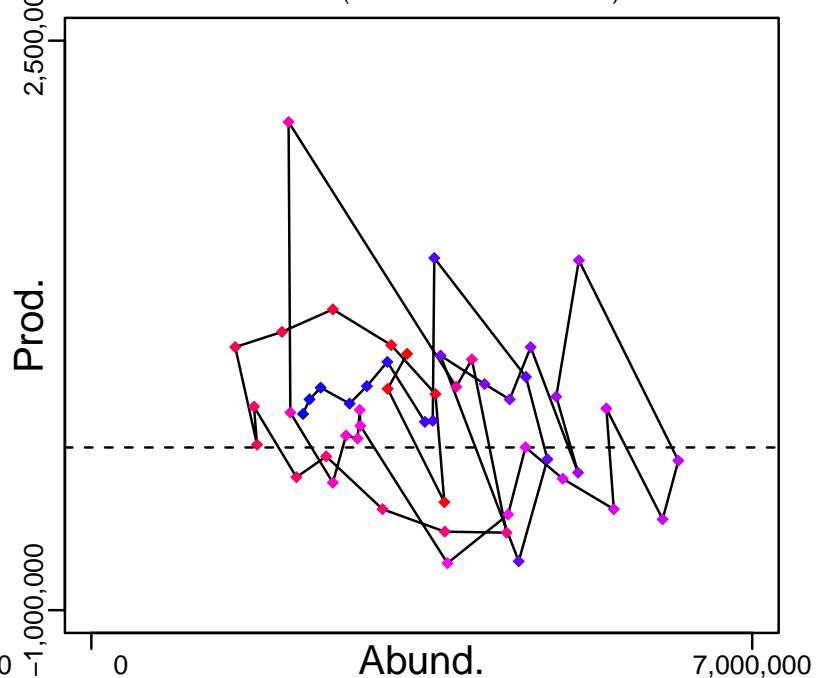
Kobe MGTpref (1966–2021–SISIMP2021–2)



Spawner Recruit (1966–2021–SISIMP2021–2)



Production (1966–2018–SISIMP2021)

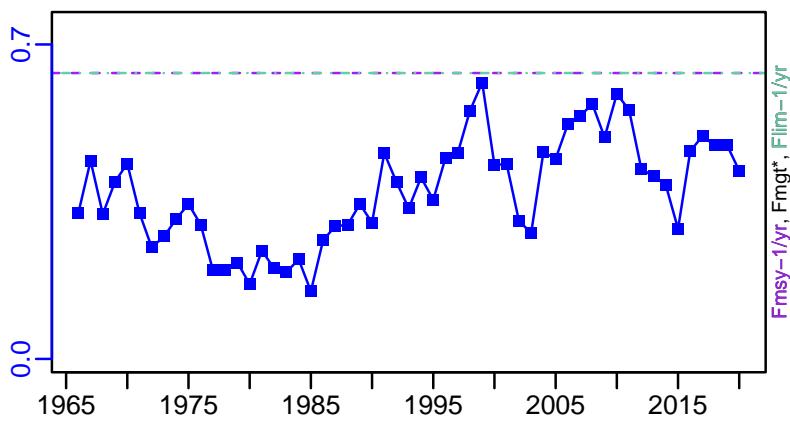
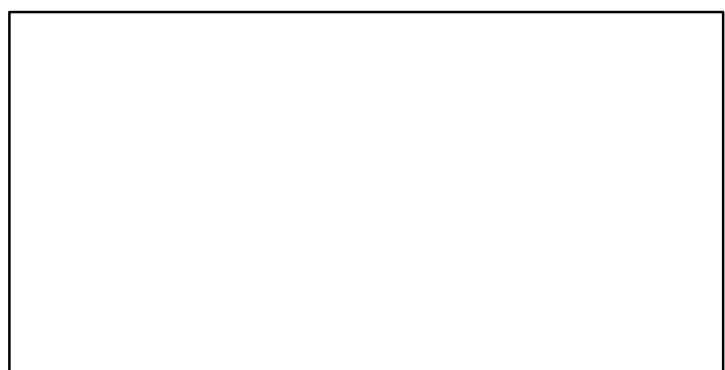
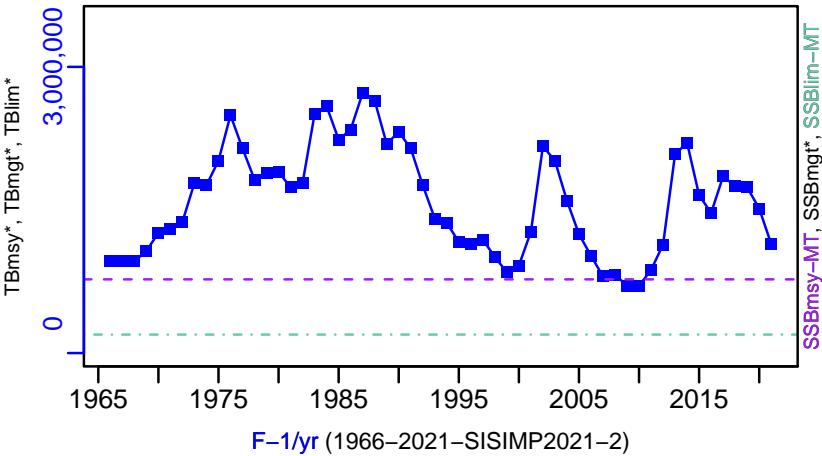
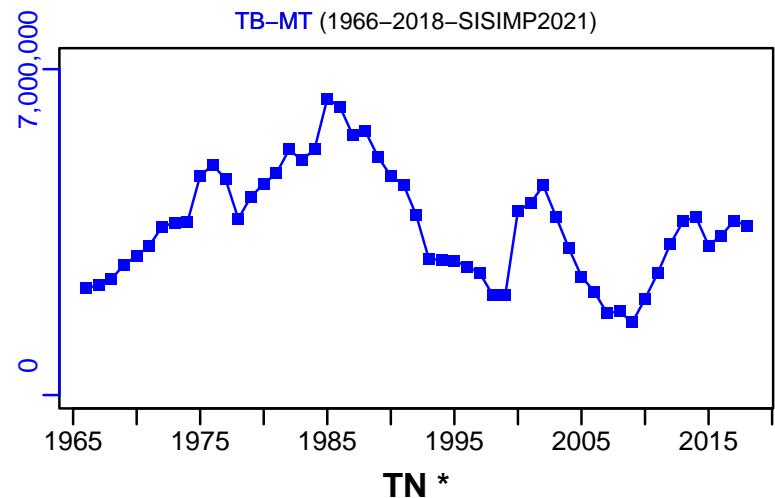


◆ Start Year   ◆ End Year   \* No Data

### Pacific hake Pacific Coast [PHAKEPCOAST]

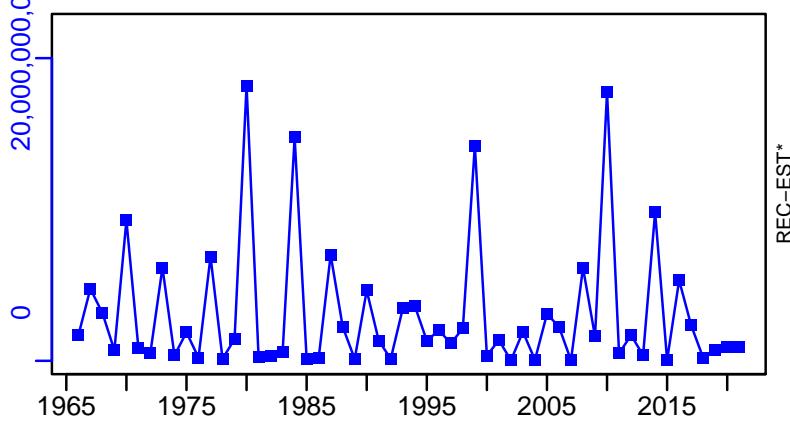
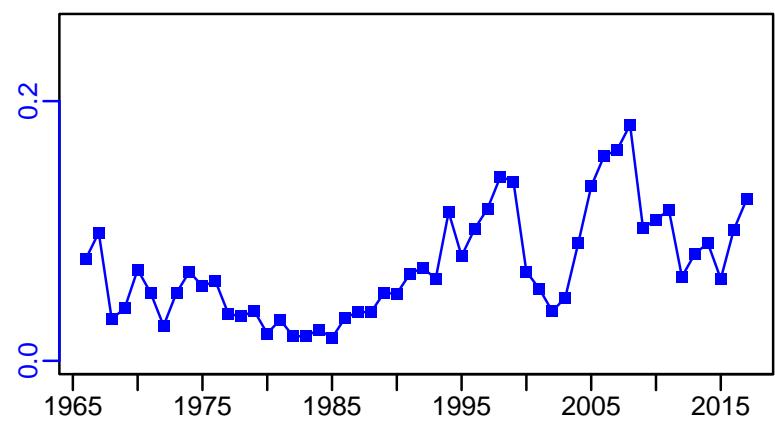
TB-MT (1966–2018–SISIMP2021)

SSB-MT (1966–2021–SISIMP2021–2)



ER-calc-ratio (1966–2018–SISIMP2021)

R-E00 (1966–2021–SISIMP2021–2)

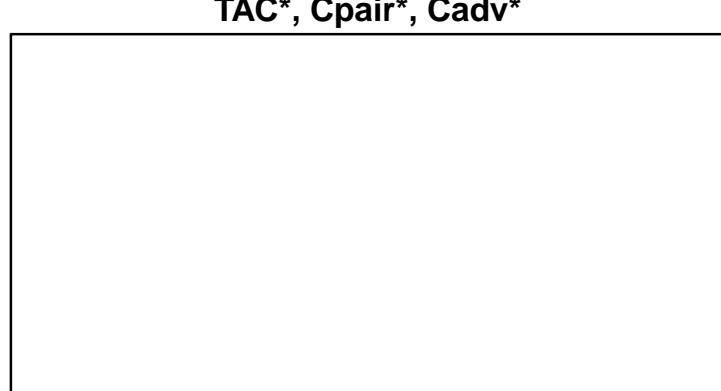
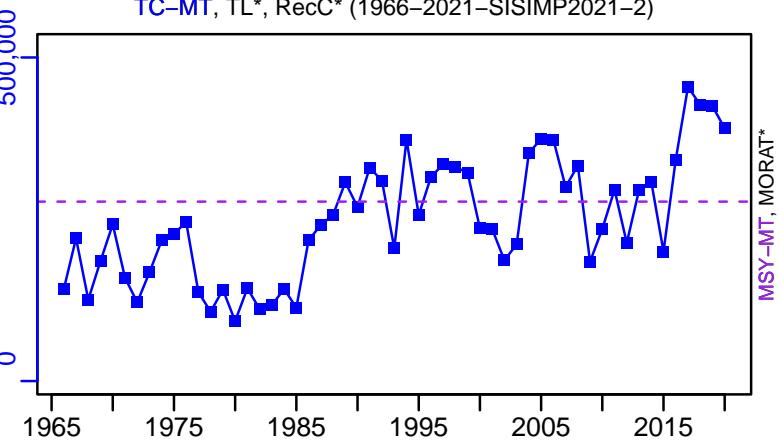


■ Listed time series	— Target BRP	— Rec-Est
— MSY-based BRP	--- Lim BRP	* No Data

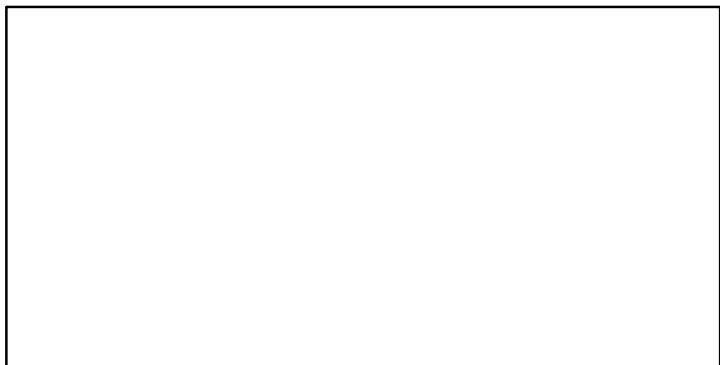
Pacific hake Pacific Coast [PHAKEPCOAST]

TC-MT, TL\*, RecC\* (1966–2021–SISIMP2021–2)

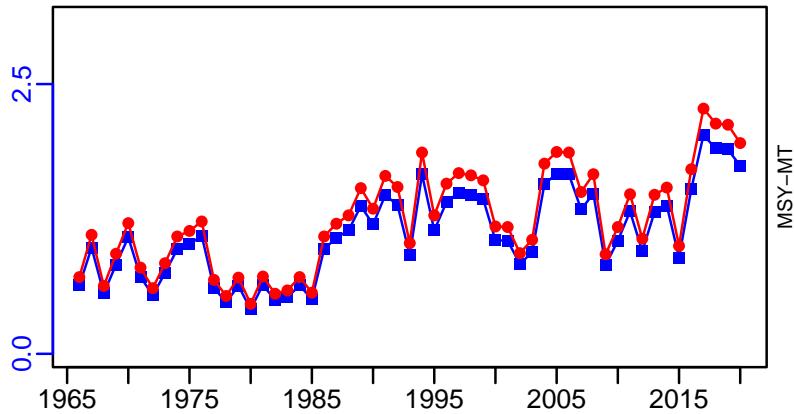
TAC\*, Cpair\*, Cadv\*



**EFFORT\***



TC-MT/MSY-MT, CdivMEANC-ratio, (1966–2021–SISIMP2021–2)



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

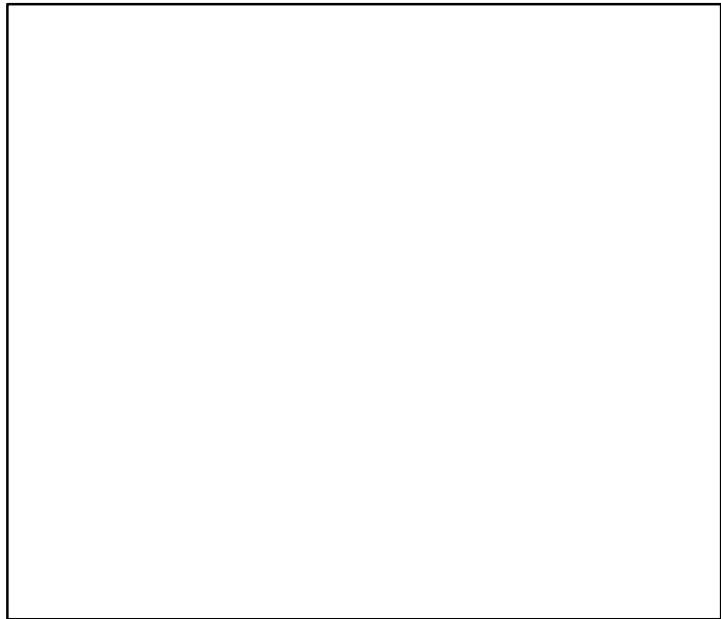
## Pollock St. Pierre Bank [POLL3Ps]

<b>Metadata</b>	
<b>Scientific Name</b>	Pollachius virens
<b>Current Assess ID</b>	DFO-NFLD-POLL3Ps-1960-2018-ASHBROOK
<b>Area</b>	St. Pierre Bank
<b>Management Authority</b>	Department of Fisheries and Oceans, Canada national management
<b>Assessor</b>	Department of Fisheries and Oceans - Newfoundland Region
<b>Asmts in RAM</b>	2013, 2018

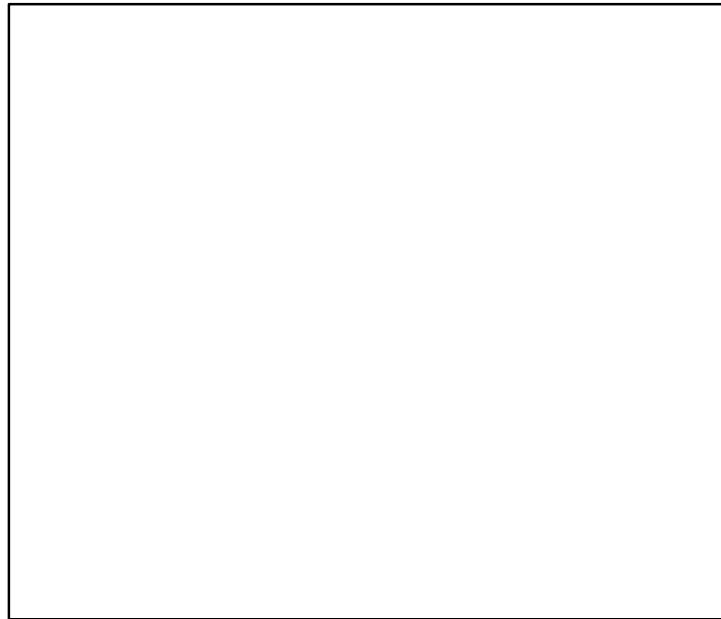
<b>Reference Points</b>			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>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

<b>Time Series</b>					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	-	-	-		
<b>TL</b>	TL-MT	2018	650		
<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>	-	-	-		

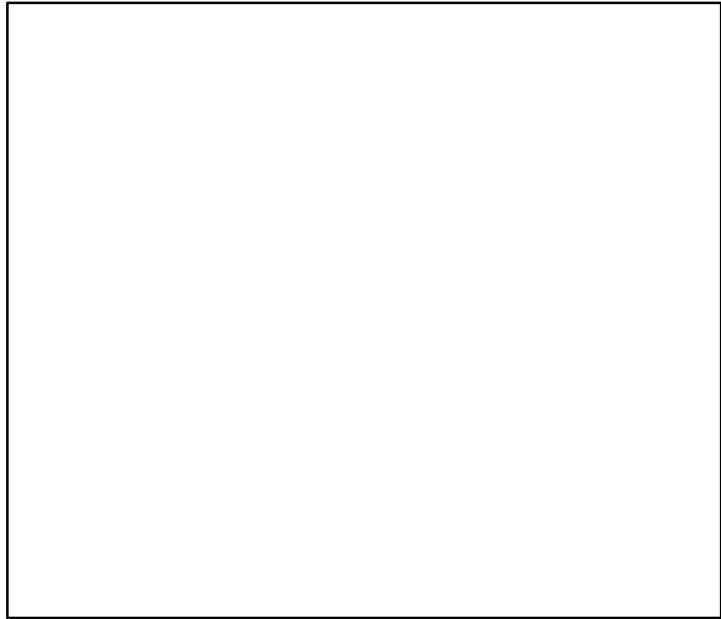
**Kobe MSY\***



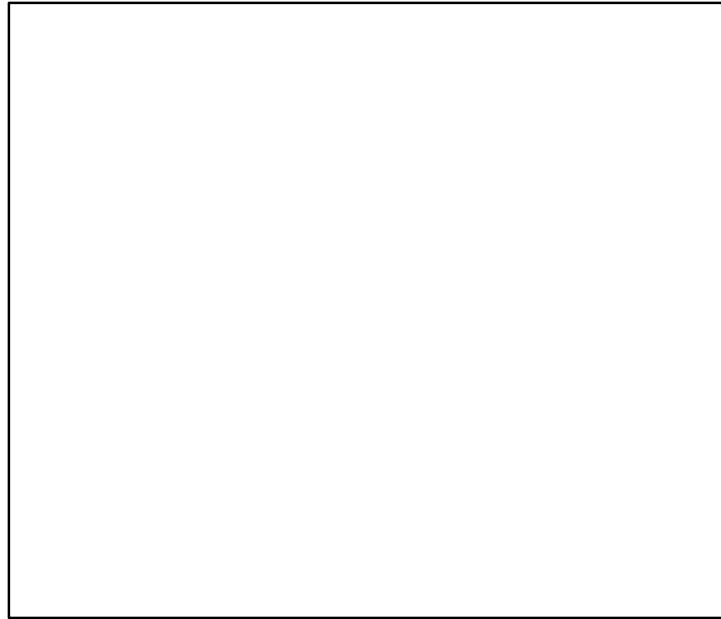
**Kobe MGT\***



**Spawner Recruit\***



**Production\***



◆ Start Year ♦ End Year \* No Data

**Pollock St. Pierre Bank [POLL3Ps]**

**TB\***



**SSB\***



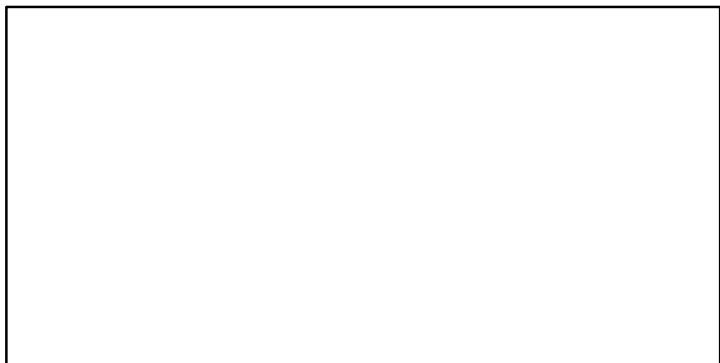
**TN \***



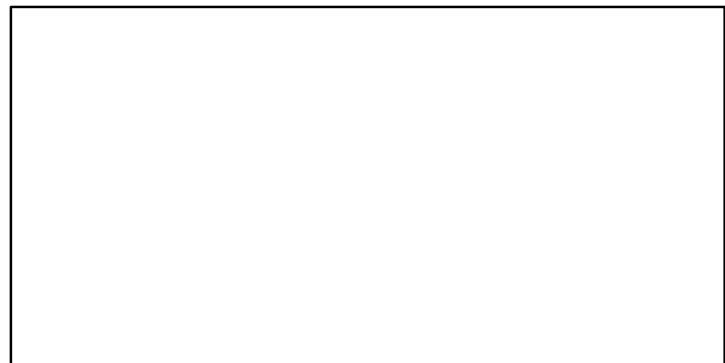
**F\***



**ER\***



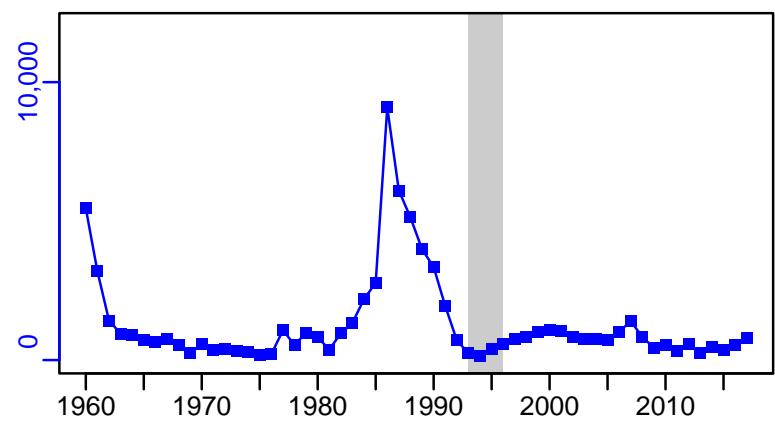
**Recruits\***



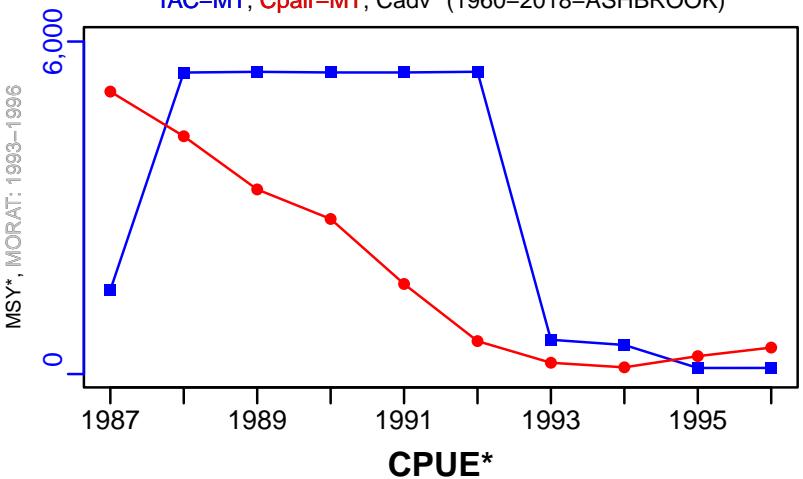
- |                      |                  |           |
|----------------------|------------------|-----------|
| ■ Listed time series | - - - Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP    | * No Data |

### Pollock St. Pierre Bank [POLL3Ps]

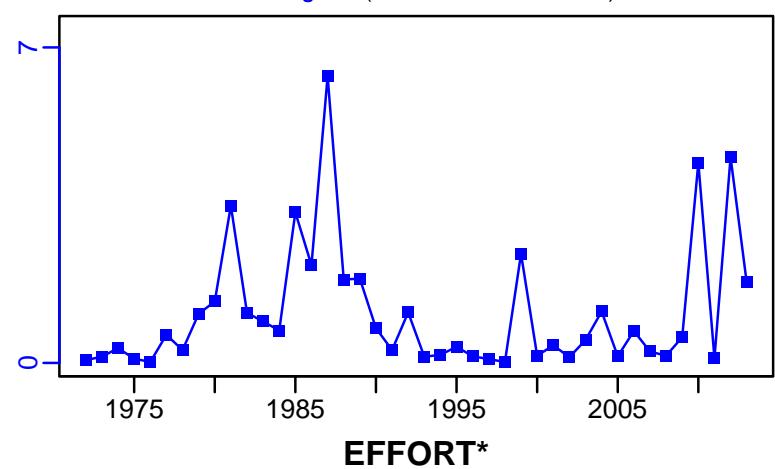
TL-MT, TC\*, RecC\* (1960–2018–ASHBROOK)



TAC-MT, Cpair-MT, Cadv\* (1960–2018–ASHBROOK)



survB–kg/tow (1960–2013–OSGOOD)



EFFORT\*

CPUE\*



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

## Pollock Scotian Shelf and Bay of Fundy [POLL4VWX]

<b>Metadata</b>	
<b>Scientific Name</b>	Pollachius virens
<b>Current Assess ID</b>	DFO-MAR-POLL4VWX-1982-2011-OSGOOD
<b>Area</b>	Scotian Shelf and Bay of Fundy
<b>Management Authority</b>	Department of Fisheries and Oceans, Canada national management
<b>Assessor</b>	Department of Fisheries and Oceans - Maritimes Region
<b>Asmts in RAM</b>	2011

<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>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<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>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	-	-	-		
<b>TL</b>	TL-MT	2011	1430		
<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\***

◆ Start Year   ◆ End Year   \* No Data

**Pollock Scotian Shelf and Bay of Fundy [POLL4VWX]**

**TB\***



**SSB\***



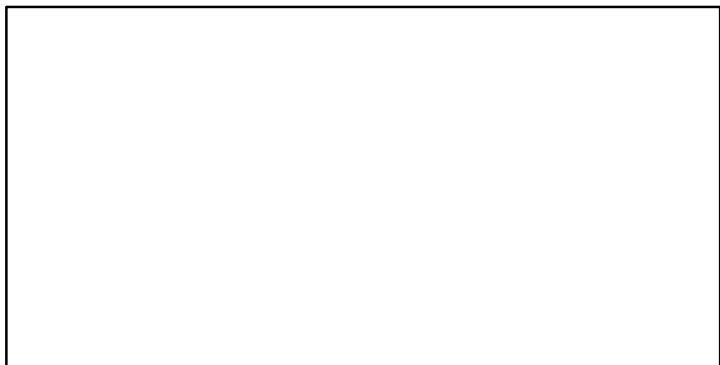
**TN \***



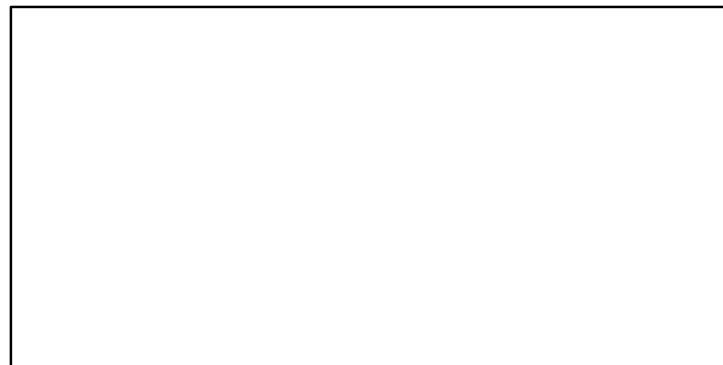
**F\***



**ER\***



**Recruits\***

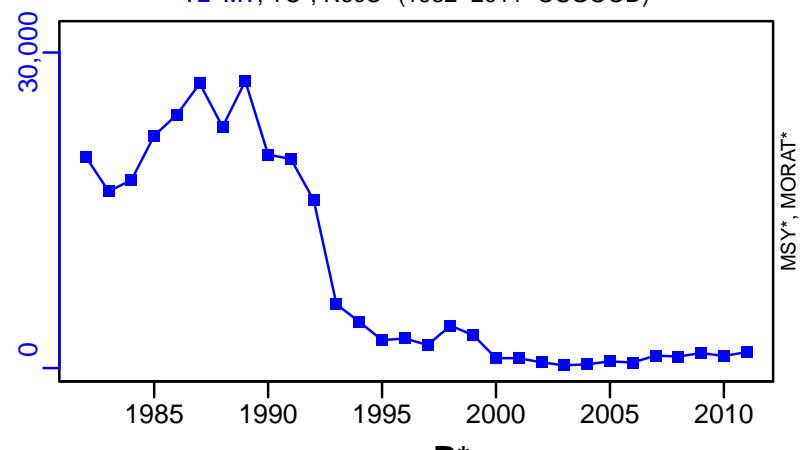


- |                      |                  |           |
|----------------------|------------------|-----------|
| ■ Listed time series | - - - Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP    | * No Data |

Pollock Scotian Shelf and Bay of Fundy [POLL4VWX]

TL-MT, TC\*, RecC\* (1982–2011–OSGOOD)

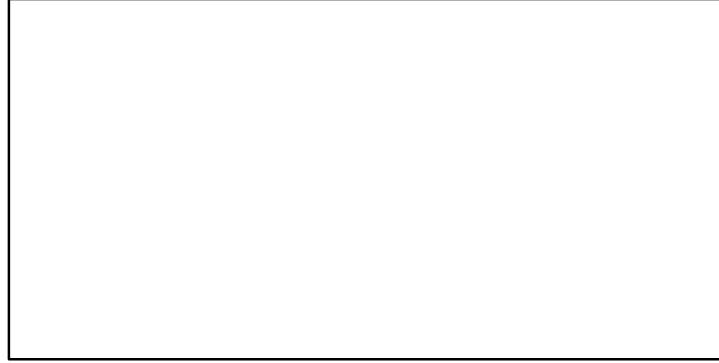
TAC\*, Cpair\*, Cadv\*



survB\*



CPUE\*



EFFORT\*



CdivMSY\*



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

## Pollock Gulf of Maine / Georges Bank [POLL5YZ]

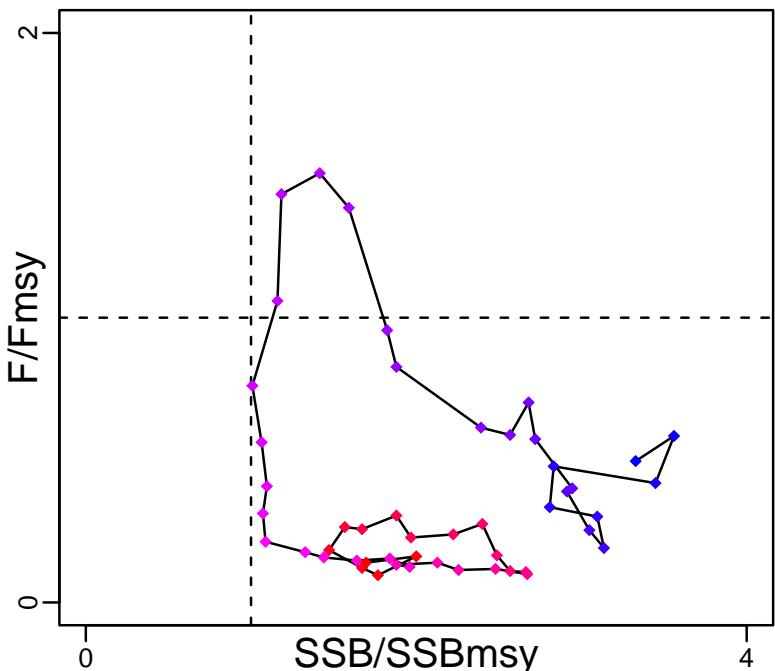
<b>Metadata</b>	
<b>Scientific Name</b>	Pollachius virens
<b>Current Assess ID</b>	NEFSC-POLL5YZ-1960-2018-SISIMP2021-2
<b>Area</b>	Gulf of Maine / Georges Bank
<b>Management Authority</b>	National Marine Fisheries Service, US national management
<b>Assessor</b>	Northeast Fisheries Science Center
<b>Asmts in RAM</b>	2009, 2018, 2016, 2014

<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	2018	125,000
<b>Fmsy</b>	Fmsy-1/yr	2018	0.272
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-MT	2014	19,678
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2018	62,300
<b>Flim</b>	Flim-1/yr	2018	0.272
<b>ERlim</b>	-	-	-

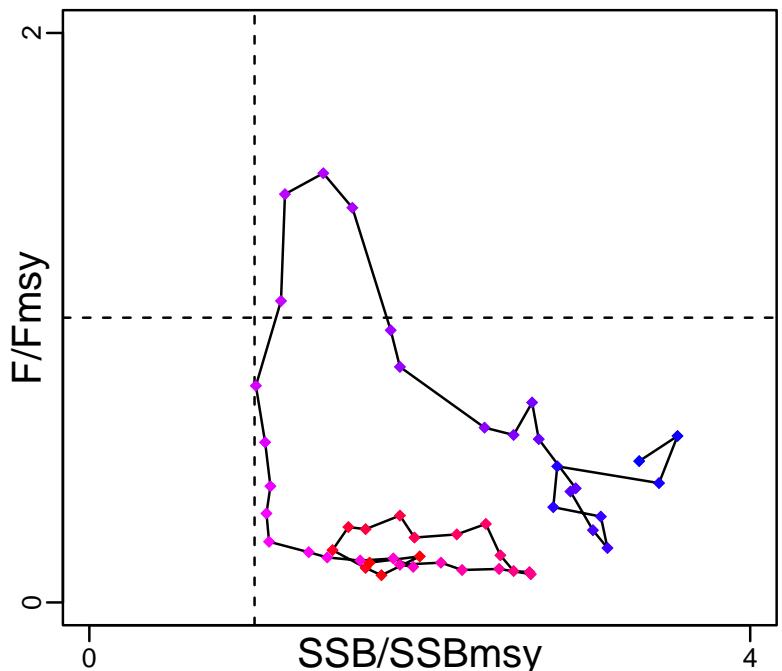
<b>Time Series</b>					
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Curr Value</b>	<b>Sex</b>	<b>Age</b>
<b>TB</b>	TB-MT	2009	210,000	-	-
<b>SSB</b>	SSB-MT	2018	212,000	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2018	24,200,000	-	1
<b>F</b>	F-1/yr	2018	0.038	-	-
<b>ER</b>	ER-calc-ratio	2009	0.042	-	-
<b>TC</b>	TC-MT	2018	4780		
<b>TL</b>	TL-MT	2009	7950		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2018	1.696		
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2018	0.14		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

Pollock Gulf of Maine / Georges Bank [POLL5YZ]

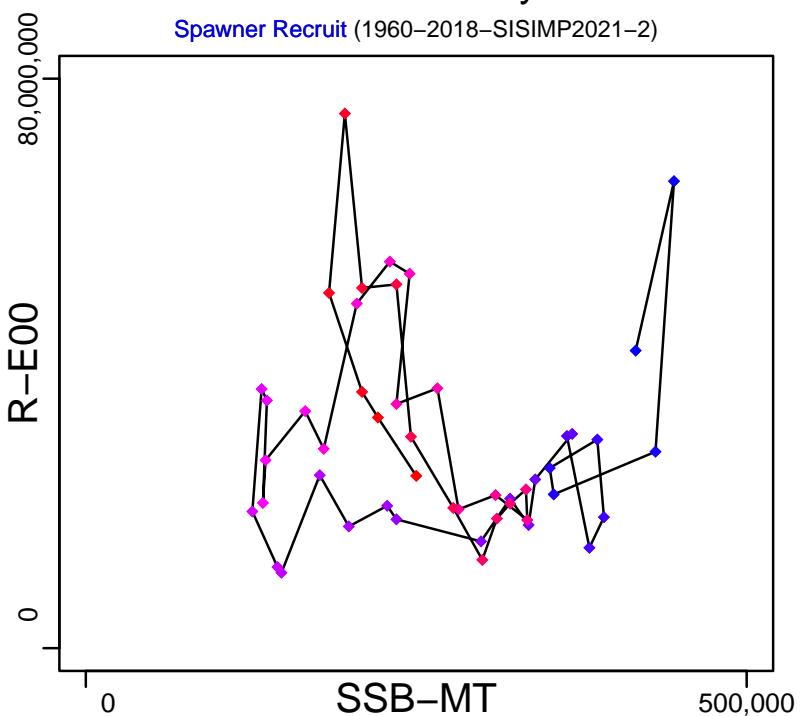
Kobe MSYpref (1960–2018–SISIMP2021–2)



Kobe MGTpref (1960–2018–SISIMP2021–2)



Spawner Recruit (1960–2018–SISIMP2021–2)



Production\*

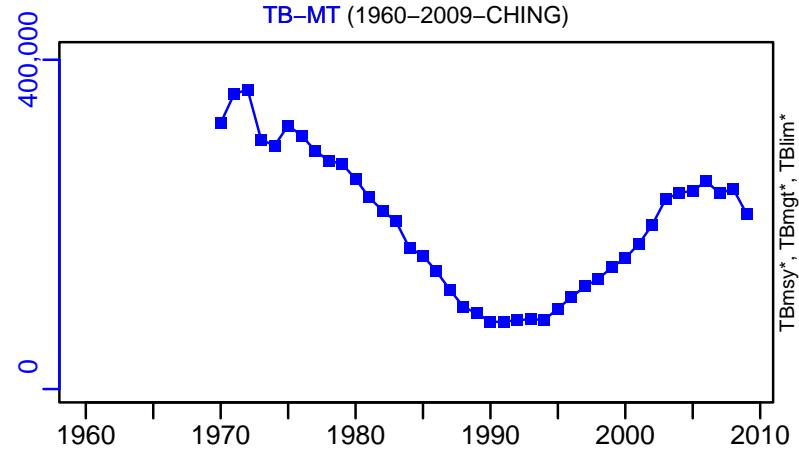


◆ Start Year   ◆ End Year   \* No Data

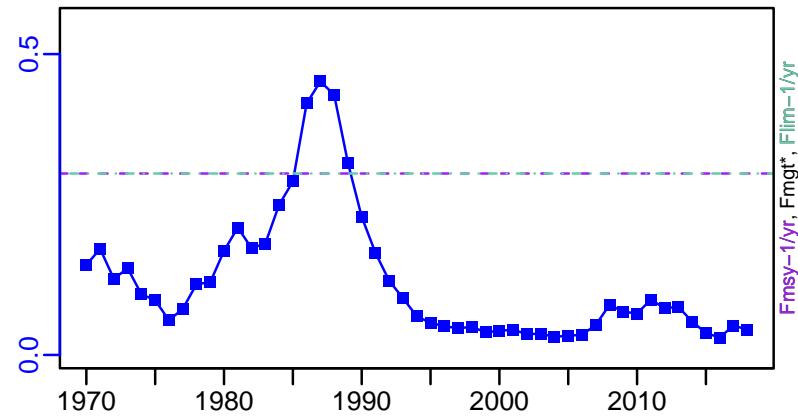
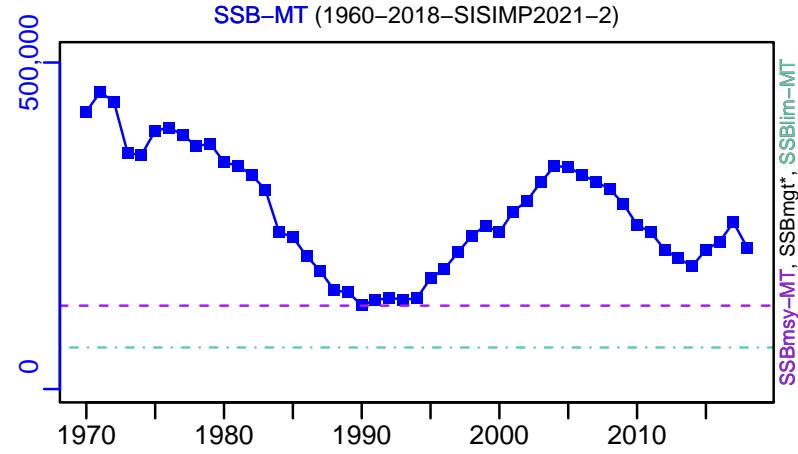
Pollock Gulf of Maine / Georges Bank [POLL5YZ]

TB-MT (1960–2009-CHING)

SSB-MT (1960–2018-SISIMP2021-2)

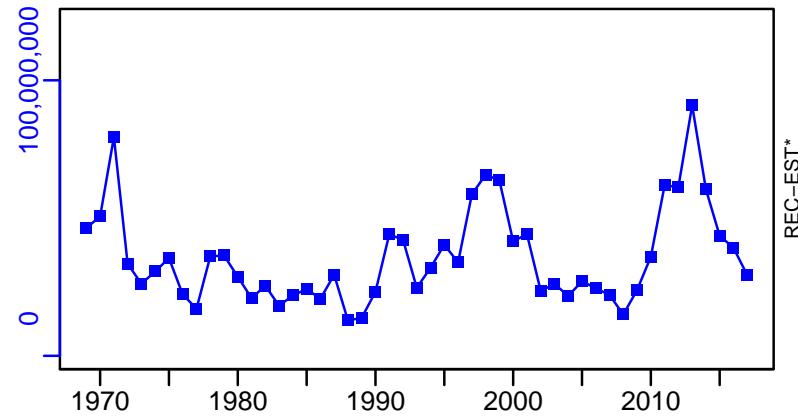
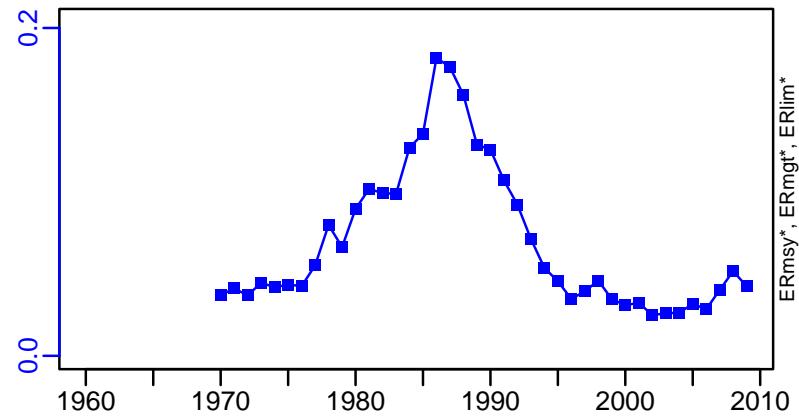


TN \*



ER-calc-ratio (1960–2009-CHING)

R-E00 (1960–2018-SISIMP2021-2)

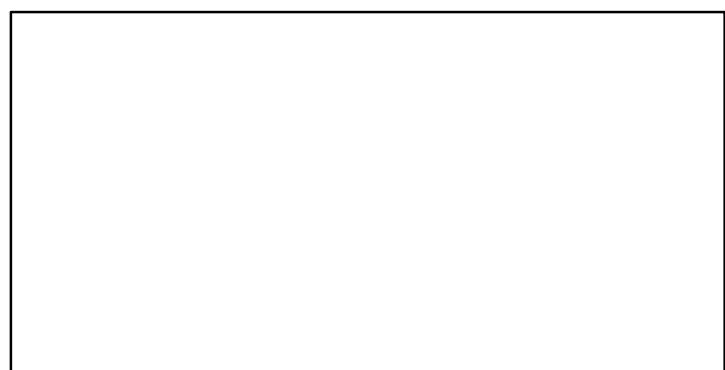
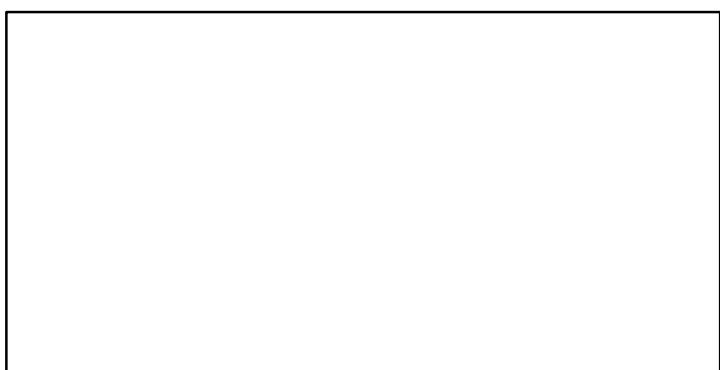
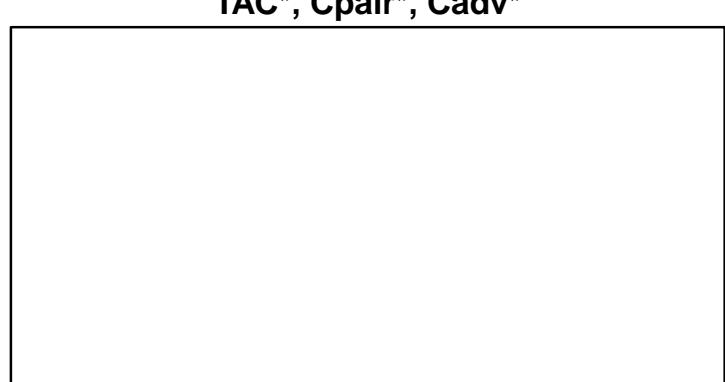
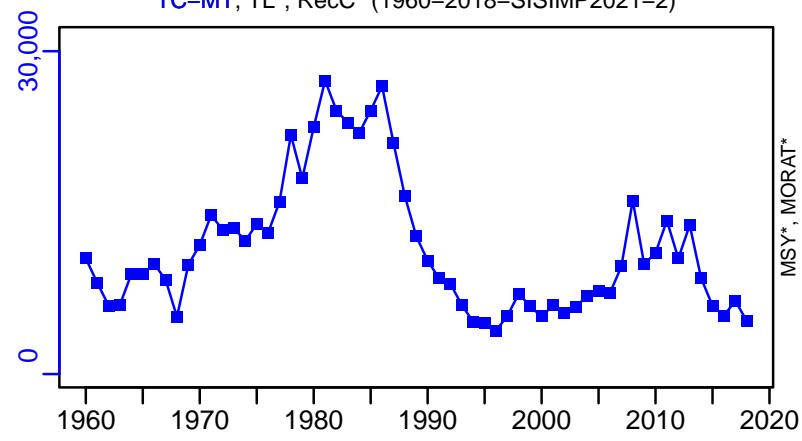


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - Lim BRP  | * No Data |

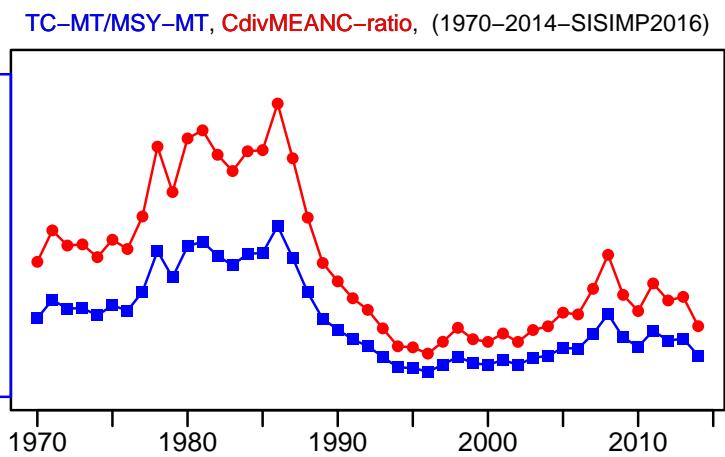
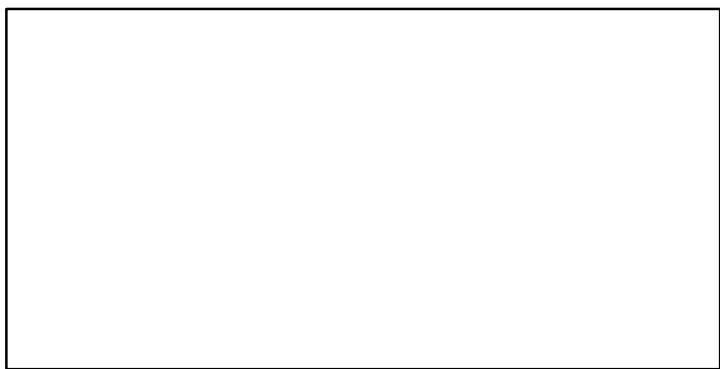
Pollock Gulf of Maine / Georges Bank [POLL5YZ]

TC-MT, TL\*, RecC\* (1960–2018–SISIMP2021–2)

TAC\*, Cpair\*, Cadv\*



**EFFORT\***



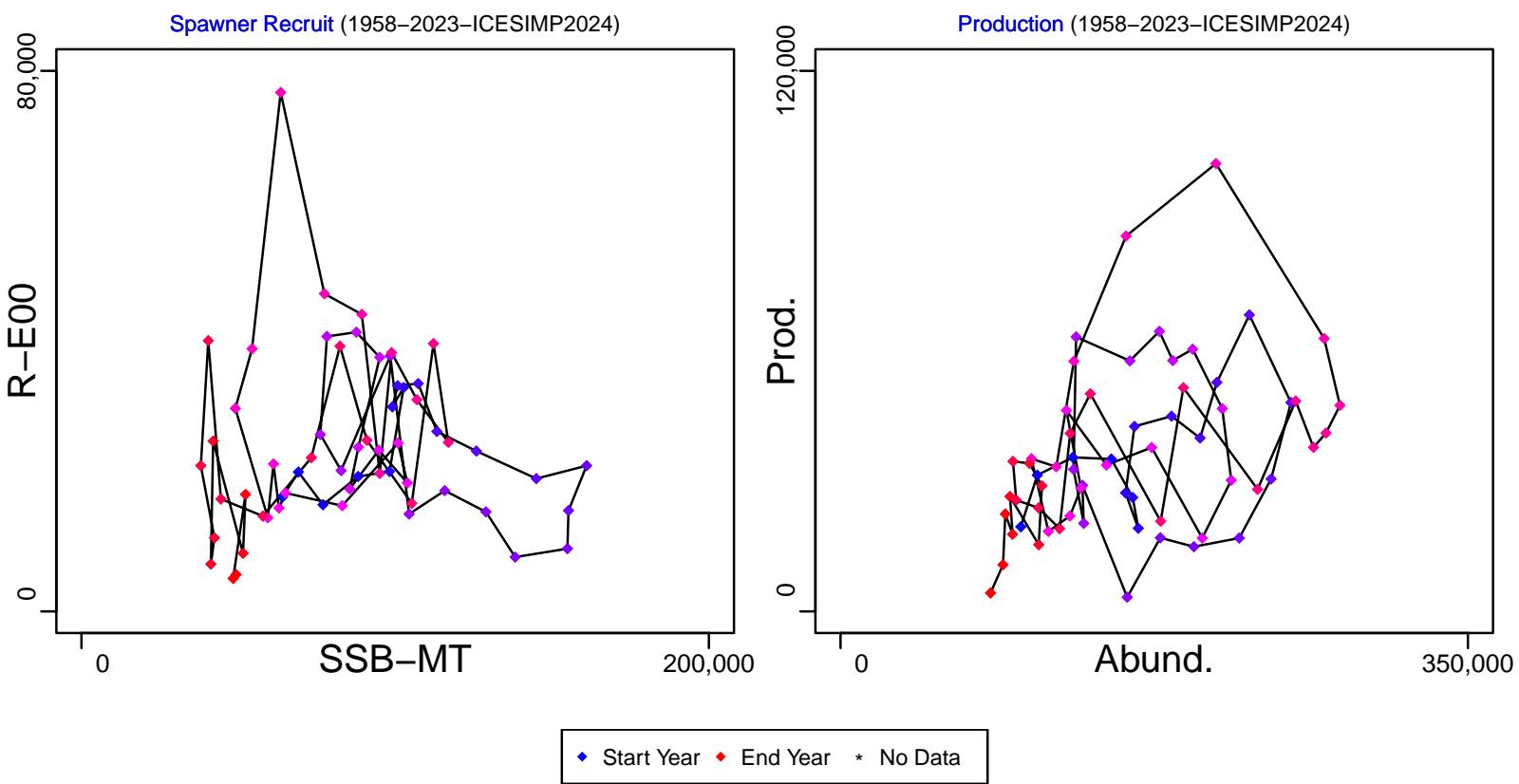
■ 1st listed time series	▲ 3rd listed time series	— MORAT
● 2nd listed time series	- - - MSY	* No Data

## Saithe Faroe Plateau [POLLFAPL]

Metadata	
<b>Scientific Name</b>	Pollachius virens
<b>Current Assess ID</b>	NWWG-POLLFAPL-1958-2023-ICESIMP2024
<b>Area</b>	Faroe Plateau
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	North-Western Working Group
<b>Asmts in RAM</b>	2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2021, 2023, 2020

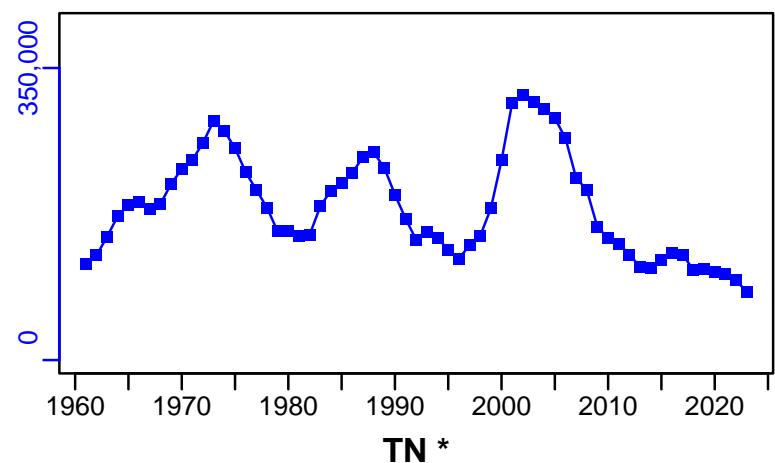
Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2023	0.38
<b>ERrmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	Fmgt-1/yr	2023	0.38
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2023	24,990
<b>Flim</b>	Flim-1/yr	2023	0.98
<b>ERlim</b>	-	-	-

Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2023	71,665	-	-	
<b>SSB</b>	SSB-MT	2023	49,125	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2023	5451	-	3	
<b>F</b>	F-1/yr	2023	0.211	-	4 to 8	
<b>ER</b>	ER-calc-ratio	2023	0.108	-	-	
<b>TC</b>	TC-MT	2023	7751			
<b>TL</b>	TL-MT	2023	7751			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2023	0.555			
<b>ER/ERrmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2023	0.555			
<b>ER/ERmgt</b>	-	-	-			

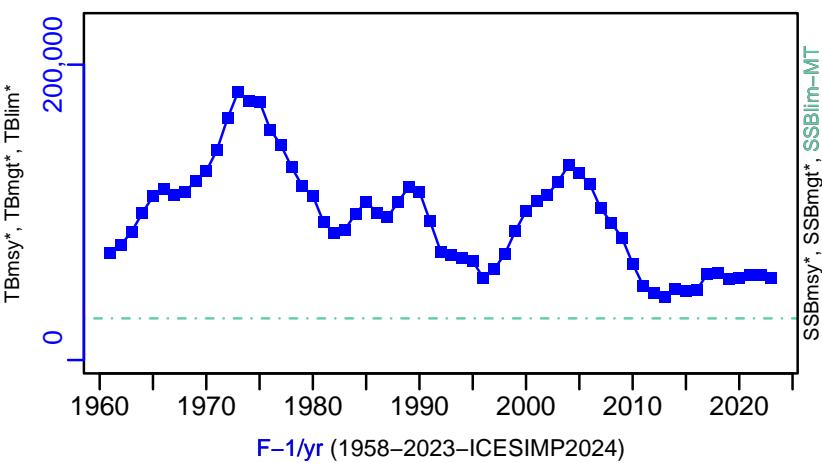
**Kobe MSY\*****Kobe MGT\***

### Saithe Faroe Plateau [POLLFAPL]

TB-MT (1958–2023–ICESIMP2024)

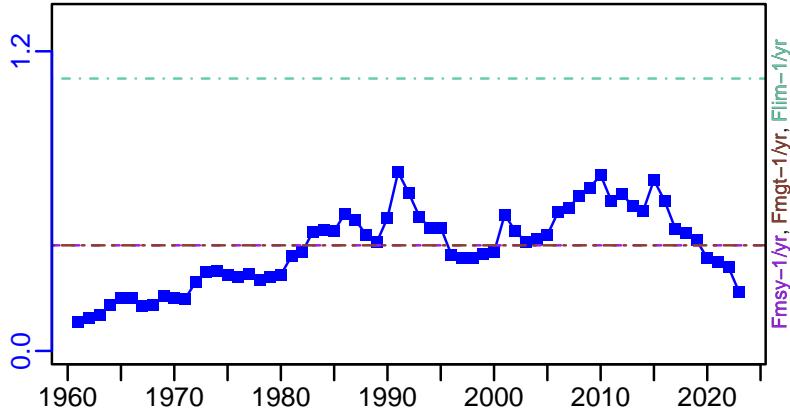
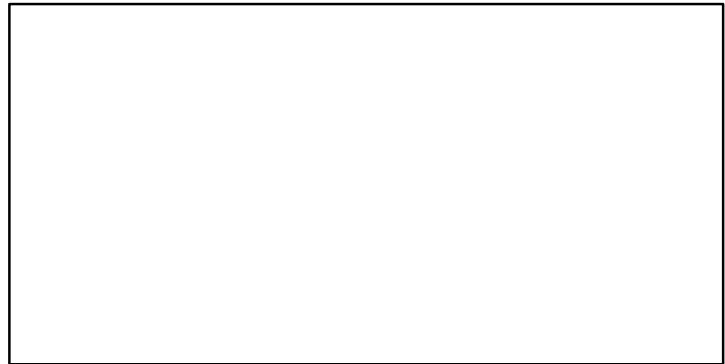


SSB-MT (1958–2023–ICESIMP2024)



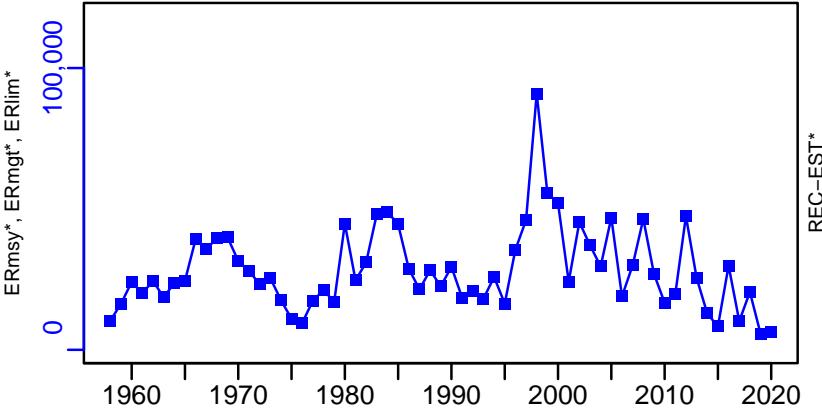
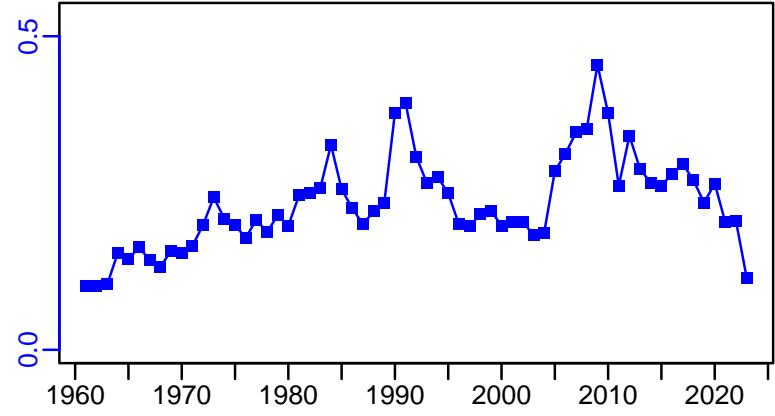
TN \*

F-1/yr



ER-calc-ratio (1958–2023–ICESIMP2024)

R-E00 (1958–2023–ICESIMP2024)

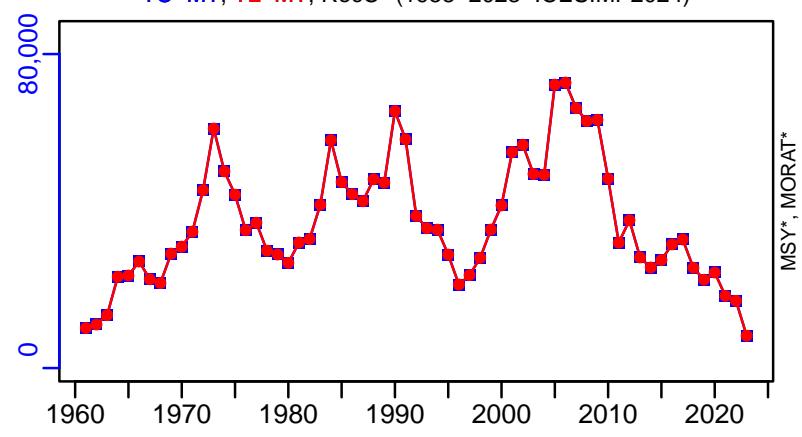


■ Listed time series	— Target BRP	— Rec-Est
- - - MSY-based BRP	- - - Lim BRP	* No Data

Saithe Faroe Plateau [POLLFAPL]

TC-MT, TL-MT, RecC\* (1958–2023–ICESIMP2024)

TAC\*, Cpair\*, Cadv\*



survB\*

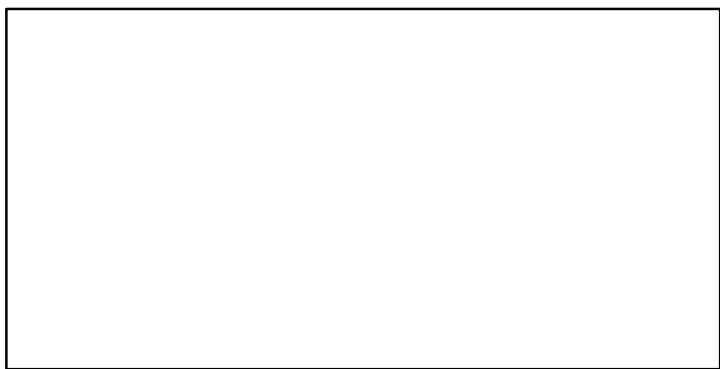
MSY\*, MORAT\*



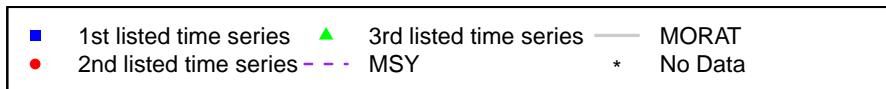
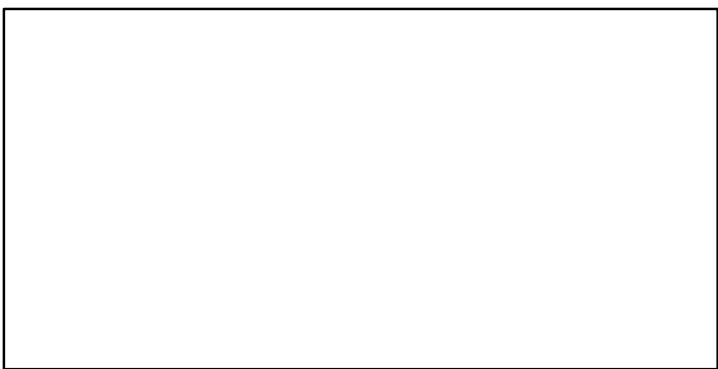
CPUE\*



EFFORT\*



CdivMSY\*



## Saithe Iceland Grounds [POLLIEG]

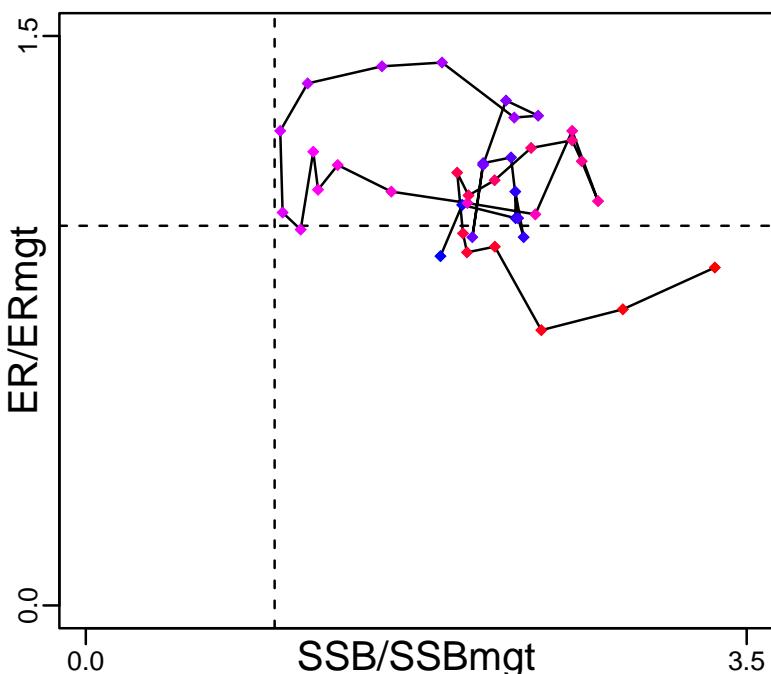
Metadata	
<b>Scientific Name</b>	Pollachius virens
<b>Current Assess ID</b>	NWWG-POLLIEG-1977-2023-ICESIMP2024
<b>Area</b>	Iceland Grounds
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	North-Western Working Group
<b>Asmts in RAM</b>	2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2023, 2020, 2021

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2012	0.28
<b>ERmsy</b>	ERmsy-ratio	2018	0.2
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2023	61,000
<b>Fmgt</b>	Fmgt-1/yr	2023	0.2
<b>ERmgt</b>	ERmgt-ratio	2019	0.2
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-MT	2012	65,000
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2023	44,000
<b>Flim</b>	Flim-1/yr	2018	0.46
<b>ERlim</b>	-	-	-

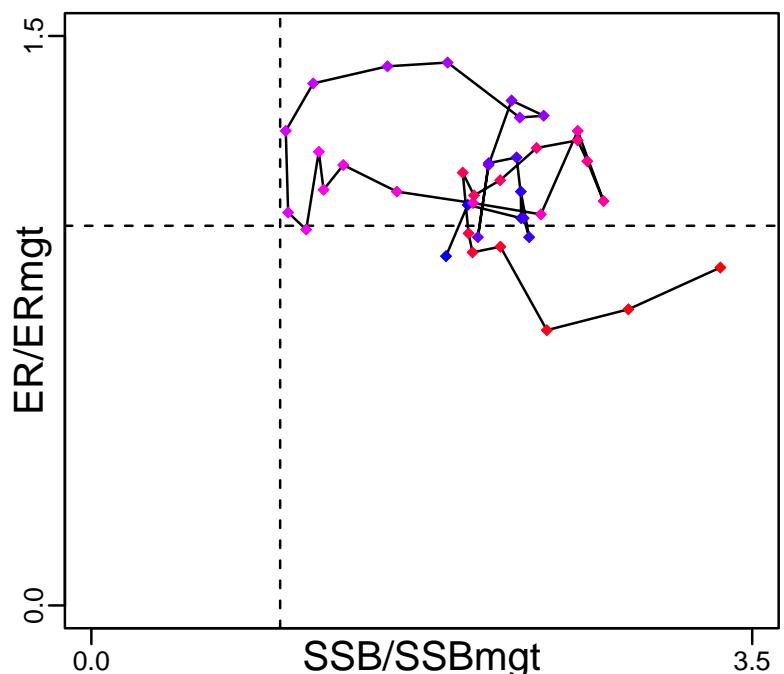
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2017	306,000	Both	-	
<b>SSB</b>	SSB-MT	2023	142,362	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2023	32,332	-	3	
<b>F</b>	F-1/yr	2019	0.17	-	4 to 9	
<b>ER</b>	ER-ratio	2023	0.213	-	4 to 9	
<b>TC</b>	TC-MT	2023	61,872			
<b>TL</b>	TL-MT	2023	61,872			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2012	0.929			
<b>ER/ERmsy</b>	ER-ratio/ERmsy-ratio	2018	0.605			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2023	2.334			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

### Saithe Iceland Grounds [POLLIEG]

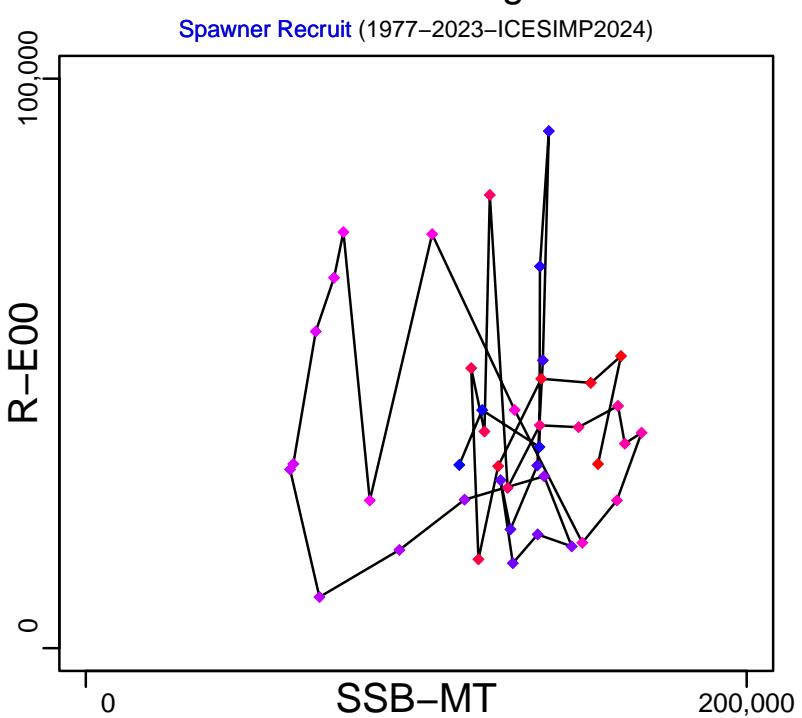
Kobe MSYpref (1977–2019–ICESIMP2021)



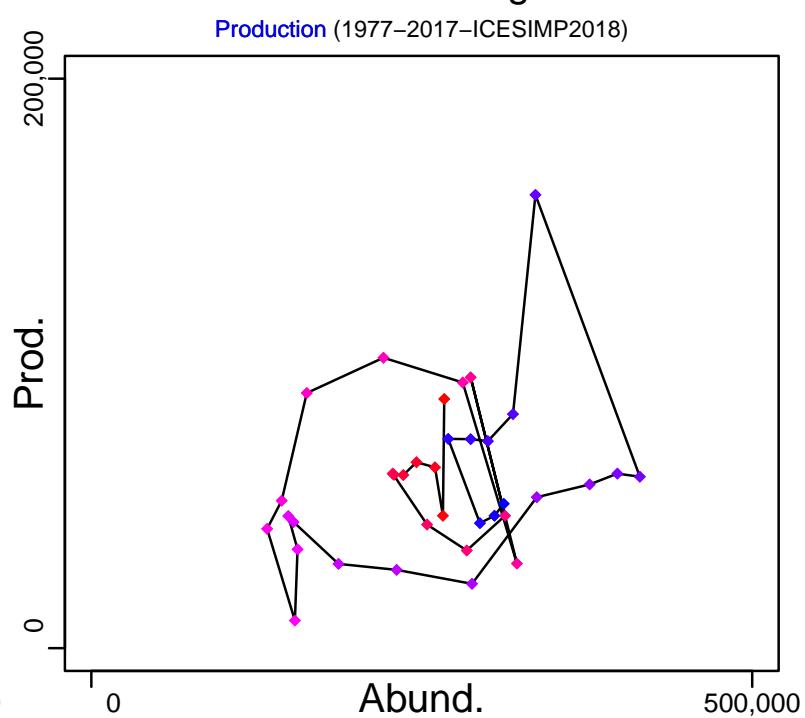
Kobe MGTpref (1977–2019–ICESIMP2021)



Spawner Recruit (1977–2023–ICESIMP2024)



Production (1977–2017–ICESIMP2018)

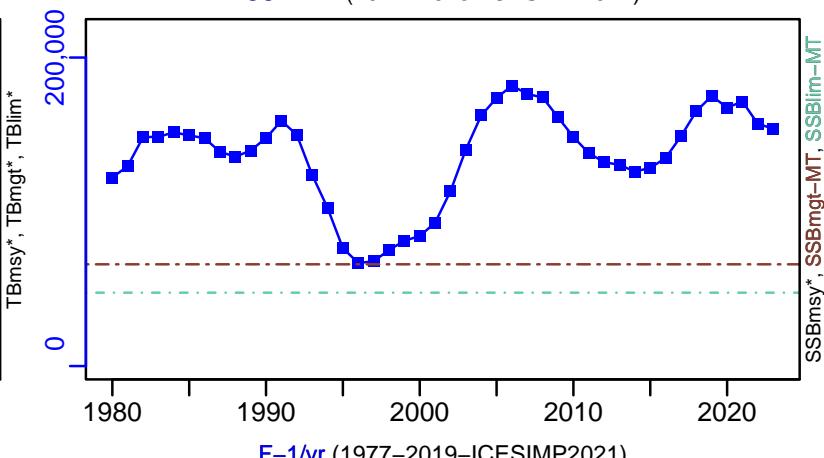
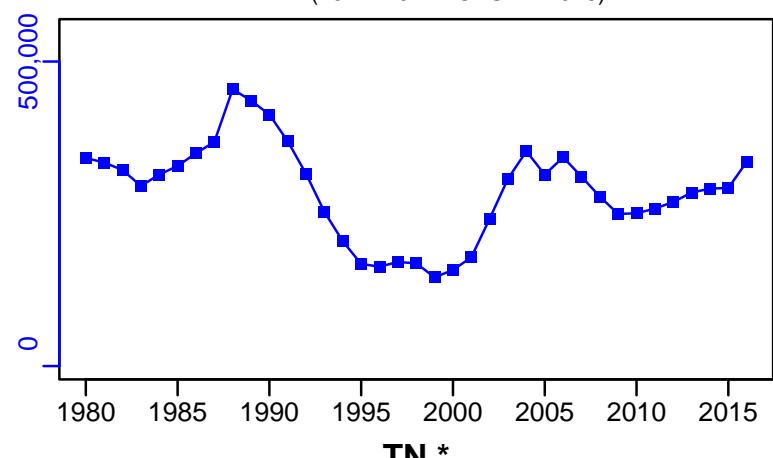


◆ Start Year ♦ End Year \* No Data

### Saithe Iceland Grounds [POLLIEG]

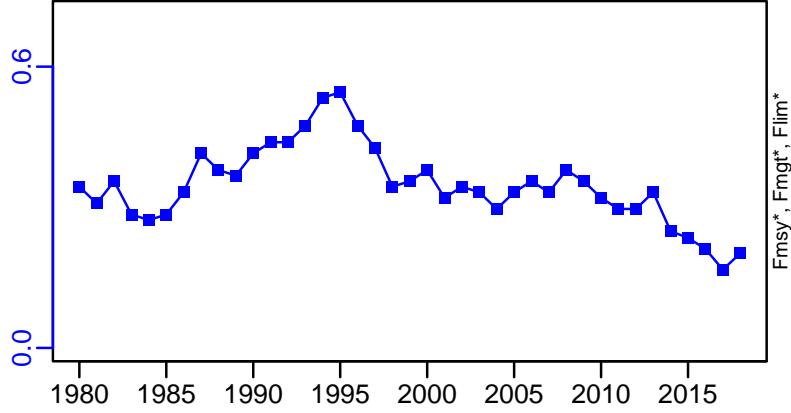
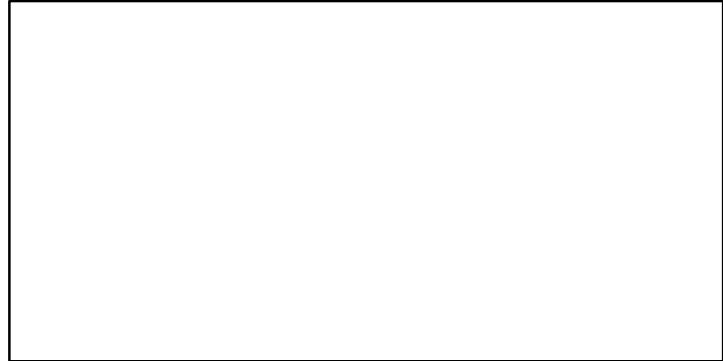
TB-MT (1977–2017–ICESIMP2018)

SSB-MT (1977–2023–ICESIMP2024)



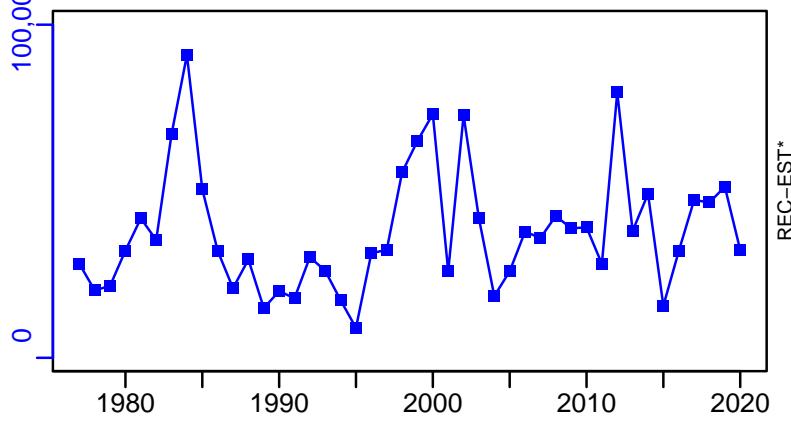
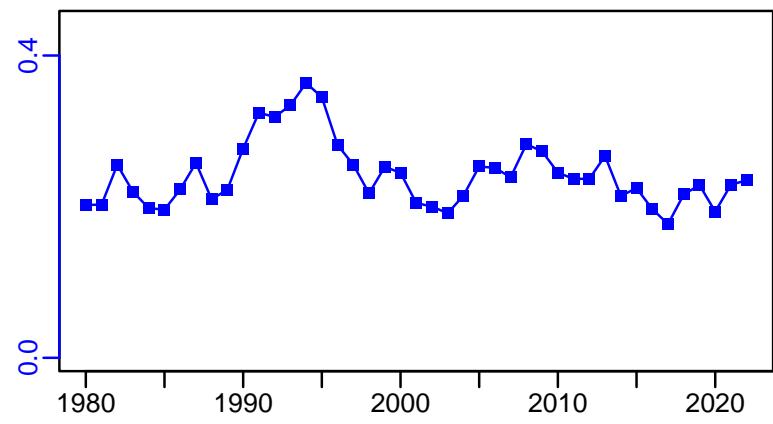
TN \*

F-1/yr (1977–2019–ICESIMP2021)



ER-ratio (1977–2023–ICESIMP2024)

R-E00 (1977–2023–ICESIMP2024)

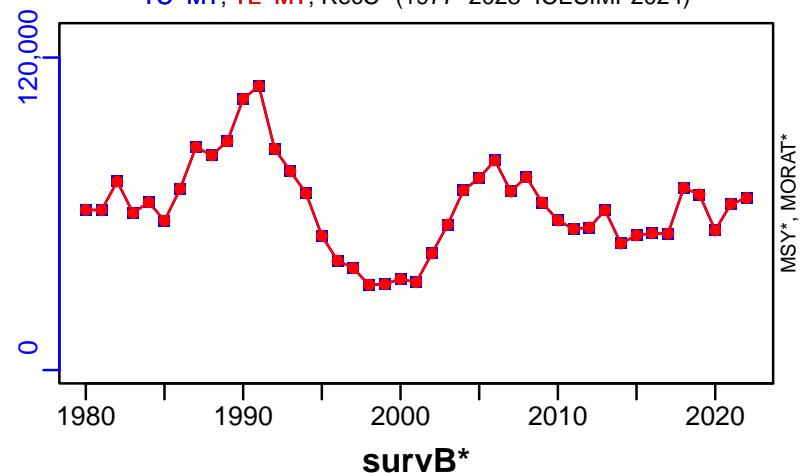


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	- - Lim BRP	* No Data

Saithe Iceland Grounds [POLLIEG]

TC-MT, TL-MT, RecC\* (1977–2023–ICESIMP2024)

TAC\*, Cpair\*, Cadv\*



MSY\*, MORAT\*

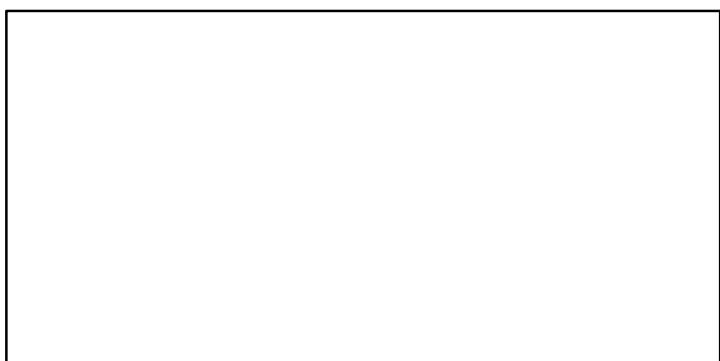
survB\*



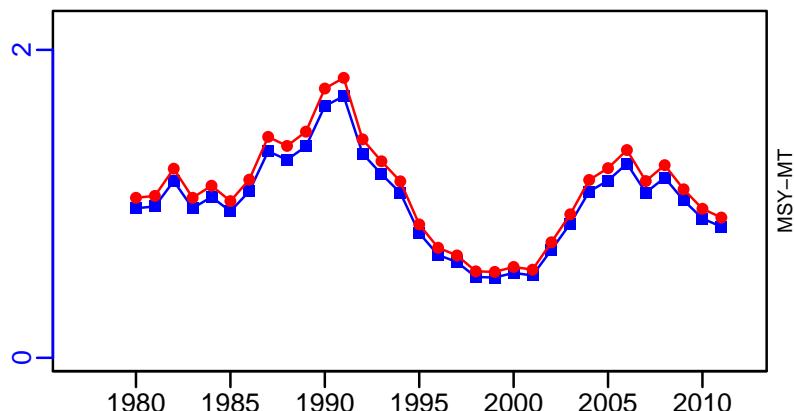
CPUE\*



EFFORT\*



TL-MT/MSY-MT, CdiveMEANC-ratio, (1977–2012–CHING)



MSY-MT

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

## Saithe North-East Arctic [POLLNEAR]

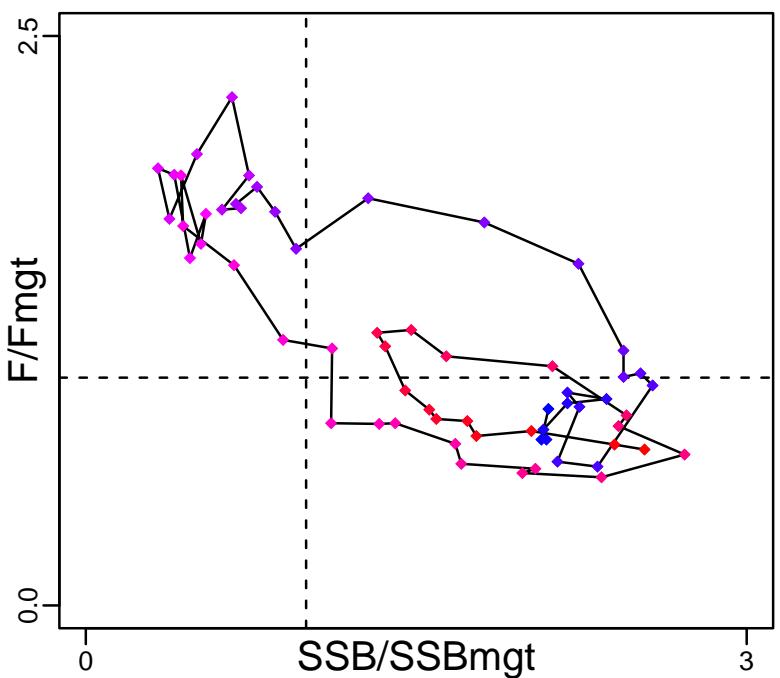
Metadata	
<b>Scientific Name</b>	Pollachius virens
<b>Current Assess ID</b>	AFWG-POLLNEAR-1960-2021-ICESIMP2021-2
<b>Area</b>	North-East Arctic
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Arctic Fisheries Working Group
<b>Asmts in RAM</b>	2012, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021

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	2021	220,000
<b>Fmgt</b>	Fmgt-1/yr	2021	0.32
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2021	136,000
<b>Flim</b>	Flim-1/yr	2021	0.58
<b>ERlim</b>	-	-	-

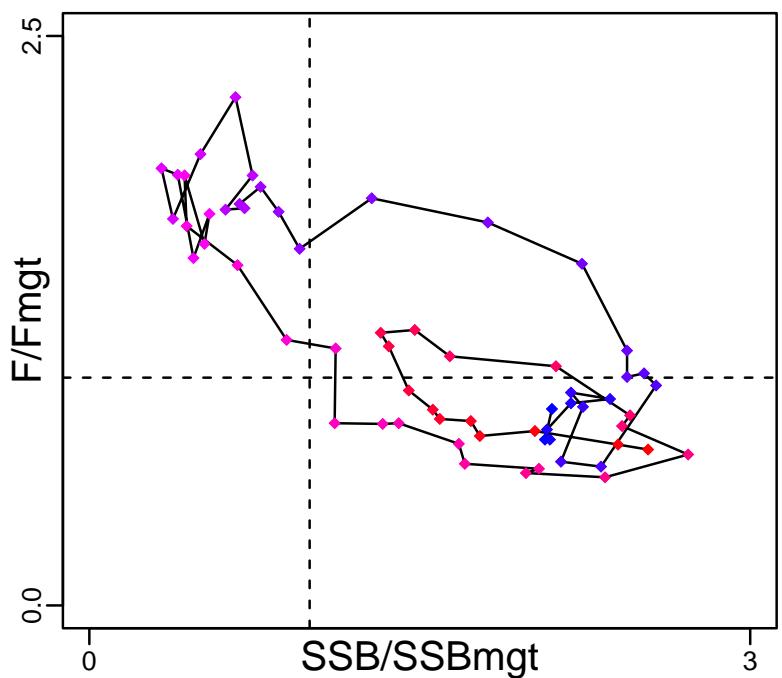
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2019	909,053	-	-
<b>SSB</b>	SSB-MT	2021	569,000	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2021	$1.6 \times 10^8$	-	3
<b>F</b>	F-1/yr	2021	0.219	-	-
<b>ER</b>	ER-calc-ratio	2019	0.199	-	-
<b>TC</b>	TC-MT	2021	169,000		
<b>TL</b>	TL-MT	2021	169,000		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2021	2.586		
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2021	0.684		
<b>ER/ERmgt</b>	-	-	-		

Saithe North-East Arctic [POLLNEAR]

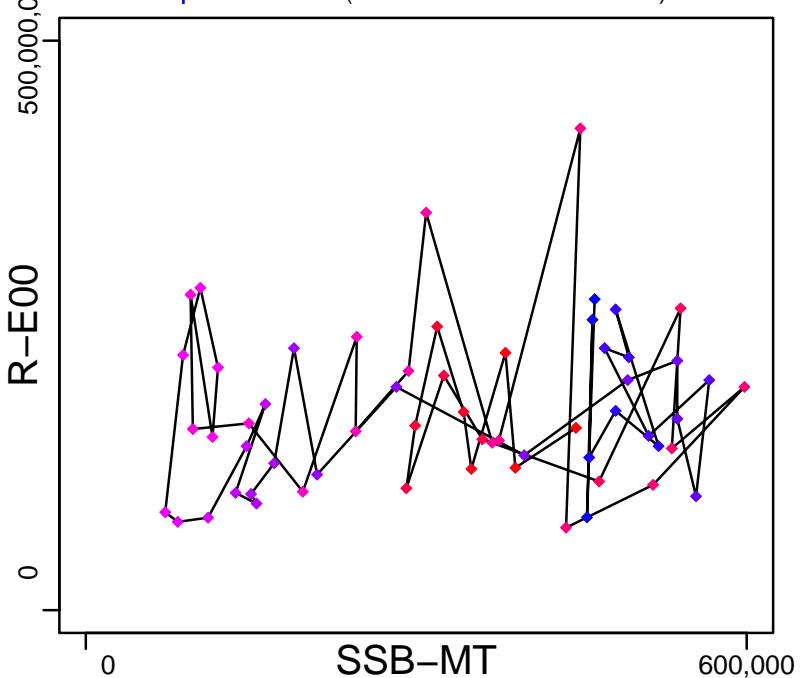
Kobe MSYpref (1960–2021–ICESIMP2021–2)



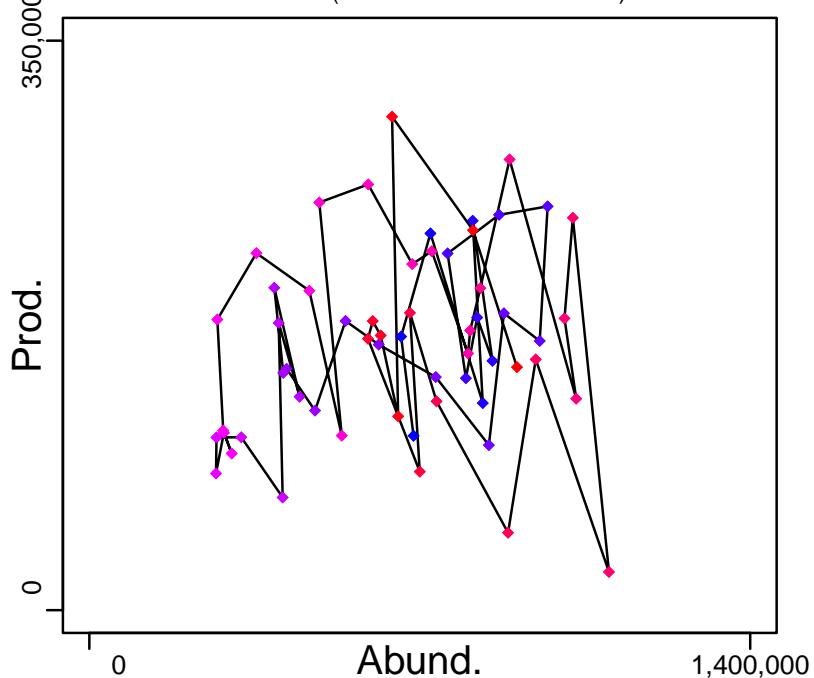
Kobe MGTpref (1960–2021–ICESIMP2021–2)



Spawner Recruit (1960–2021–ICESIMP2021–2)



Production (1957–2019–ICESIMP2021)

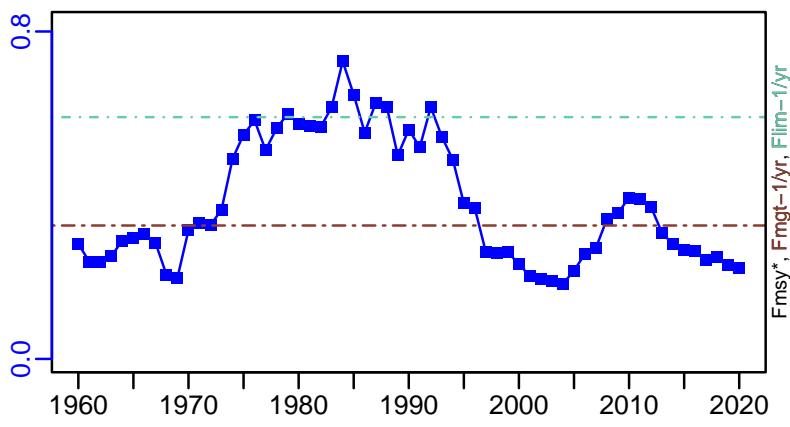
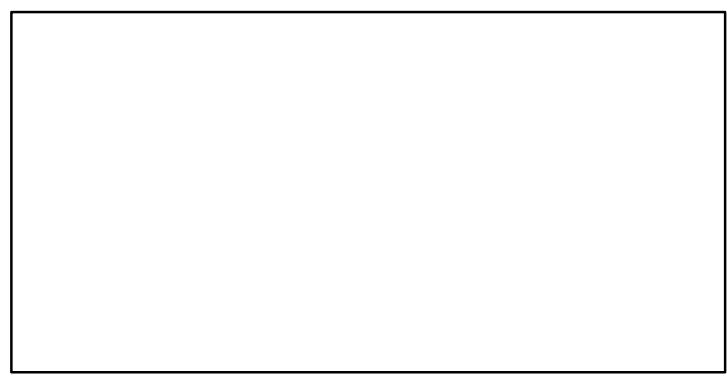
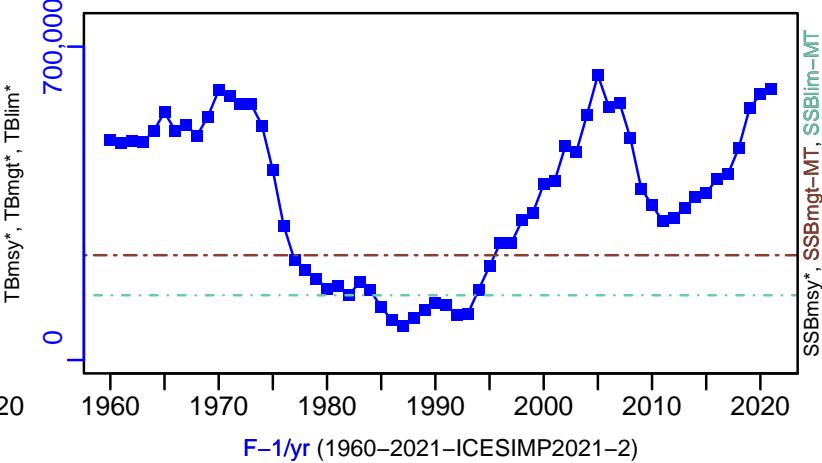
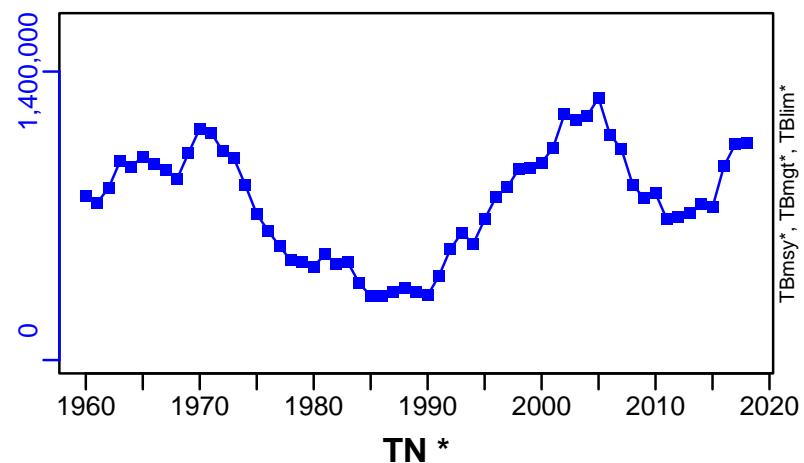


◆ Start Year   ◆ End Year   \* No Data

Saithe North-East Arctic [POLLNEAR]

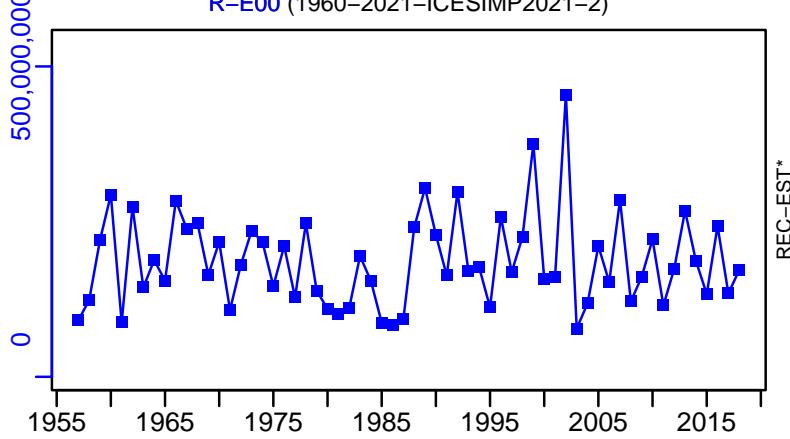
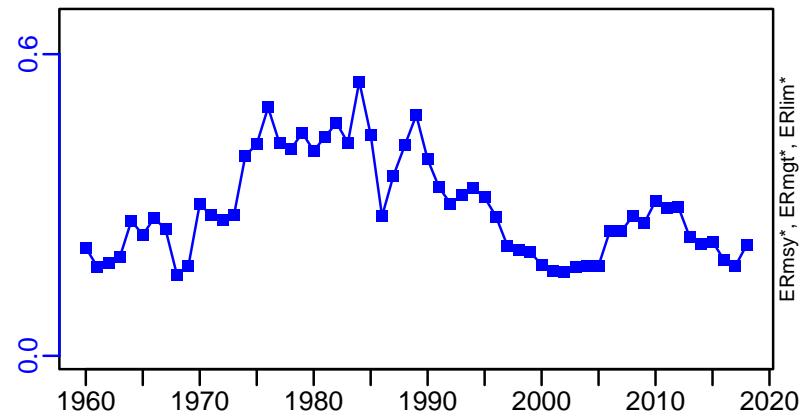
TB-MT (1957–2019–ICESIMP2021)

SSB-MT (1960–2021–ICESIMP2021–2)



ER-calc-ratio (1957–2019–ICESIMP2021)

R-E00 (1960–2021–ICESIMP2021–2)

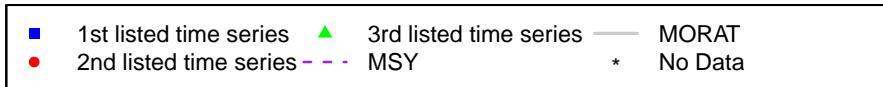
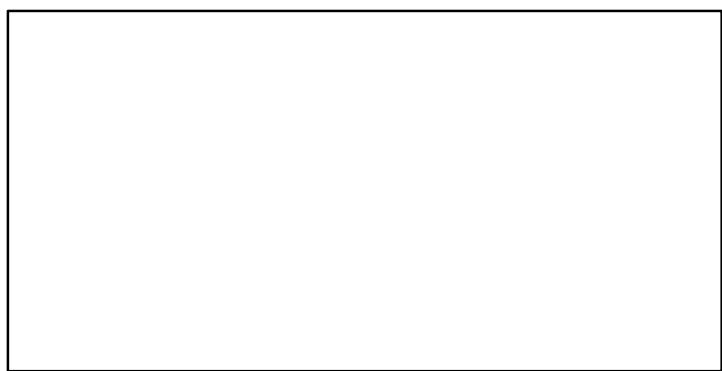
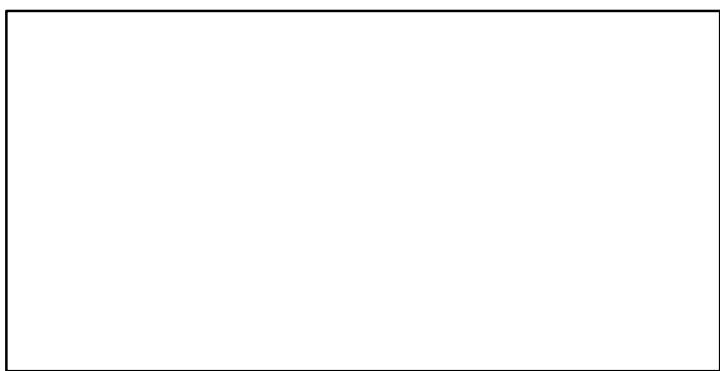
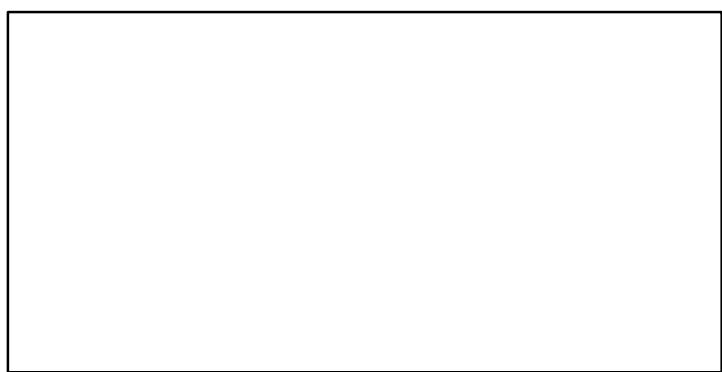
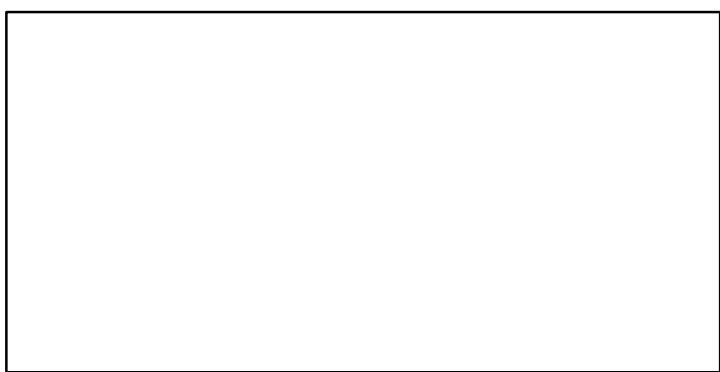
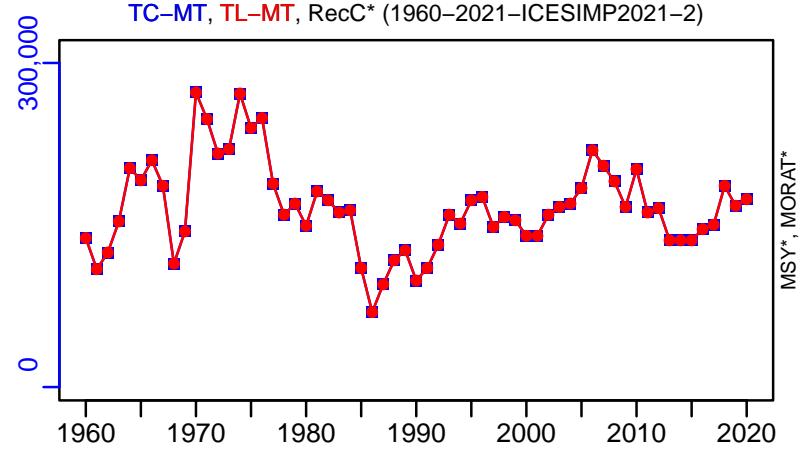


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	- - Lim BRP	* No Data

Saithe North-East Arctic [POLLNEAR]

TC-MT, TL-MT, RecC\* (1960–2021–ICESIMP2021–2)

TAC\*, Cpair\*, Cadv\*



## Saithe ICES 3a-4-6 [POLLNS-VI-IIla]

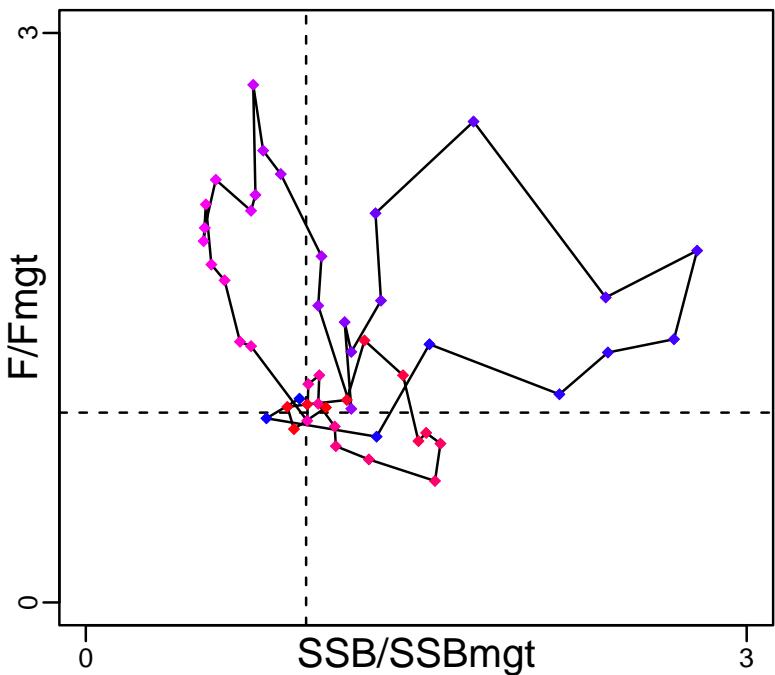
Metadata	
<b>Scientific Name</b>	Pollachius virens
<b>Current Assess ID</b>	WGNSSK-POLLNS-VI-IIla-1967-2021-ICESIMP2021-2
<b>Area</b>	ICES 3a-4-6
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak
<b>Asmts in RAM</b>	2012, 2013, 2014, 2015, 2016, 2016, 2017, 2018, 2019, 2020, 2021

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2021	0.363
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2015	$2 \times 10^5$
<b>Fmgt</b>	Fmgt-1/yr	2021	0.363
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-MT	2012	$2 \times 10^5$
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2021	107,000
<b>Flim</b>	Flim-1/yr	2021	0.668
<b>ERlim</b>	-	-	-

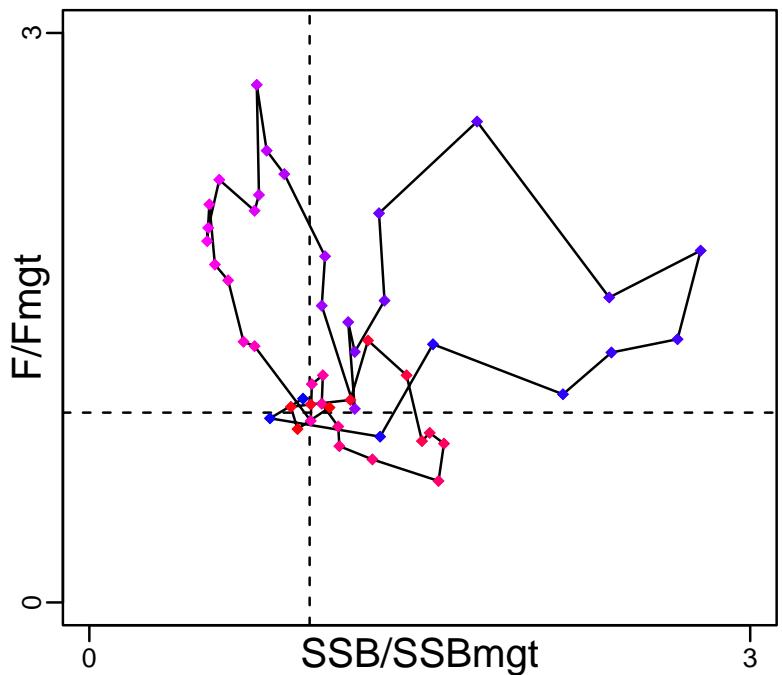
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2019	383,325	-	-	
<b>SSB</b>	SSB-MT	2021	138,000	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2021	71,500,000	-	3	
<b>F</b>	F-1/yr	2021	0.453	-	-	
<b>ER</b>	ER-calc-ratio	2019	0.246	-	-	
<b>TC</b>	TC-MT	2021	76,800			
<b>TL</b>	TL-MT	2021	73,800			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2021	1.248			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2015	0.995			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2021	1.248			
<b>ER/ERmgt</b>	-	-	-			

Saithe ICES 3a-4-6 [POLLNS-VI-IIla]

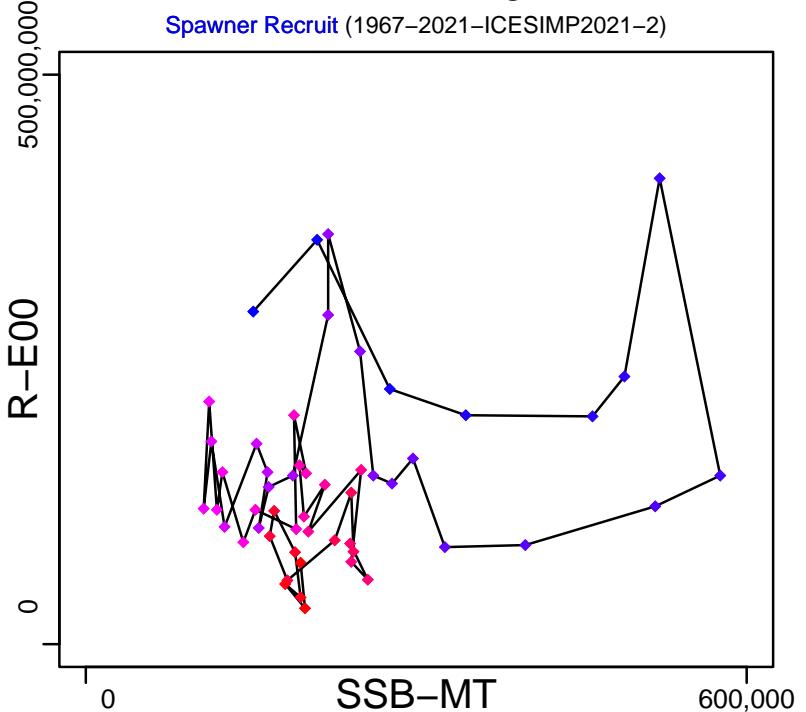
Kobe MSYpref (1964–2015–ICESIMP2016)



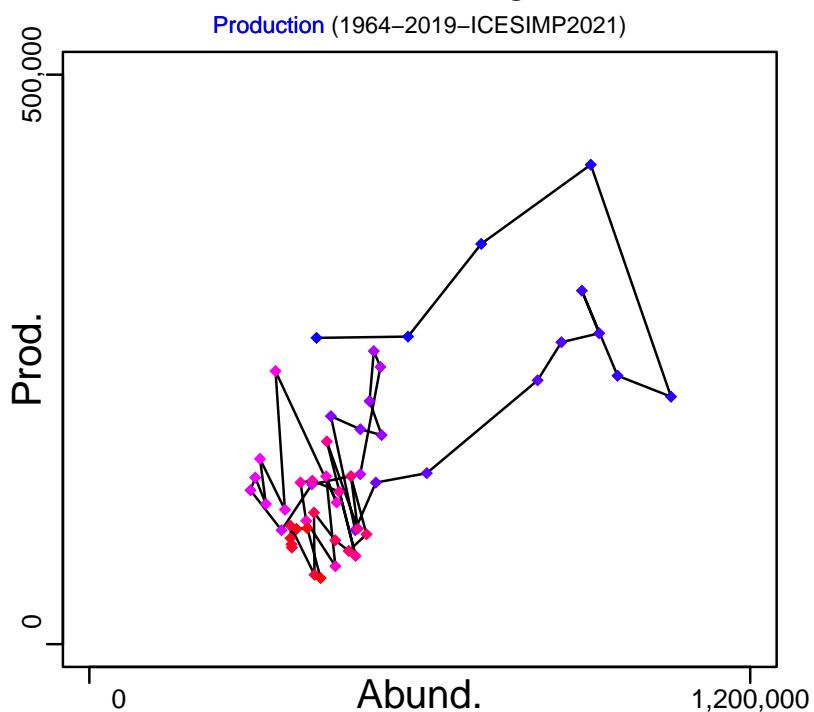
Kobe MGTpref (1964–2015–ICESIMP2016)



Spawner Recruit (1967–2021–ICESIMP2021-2)



Production (1964–2019–ICESIMP2021)

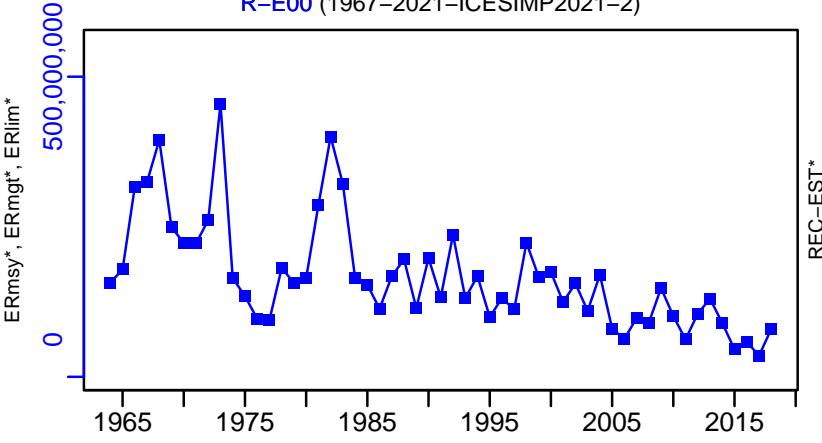
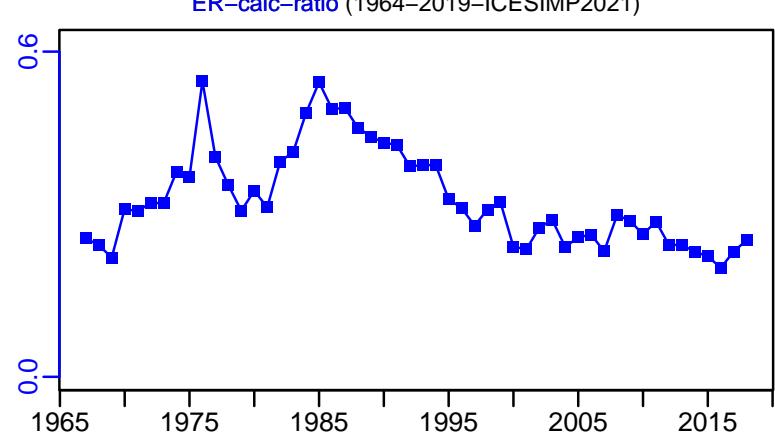
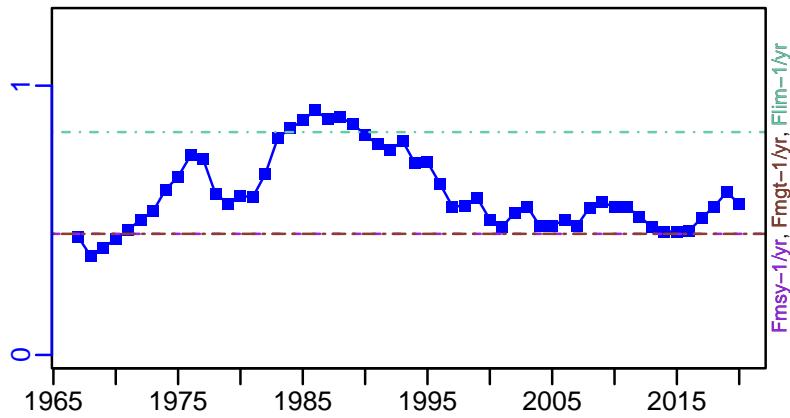
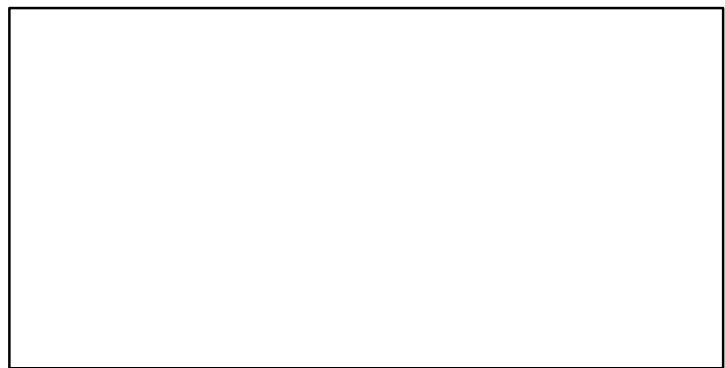
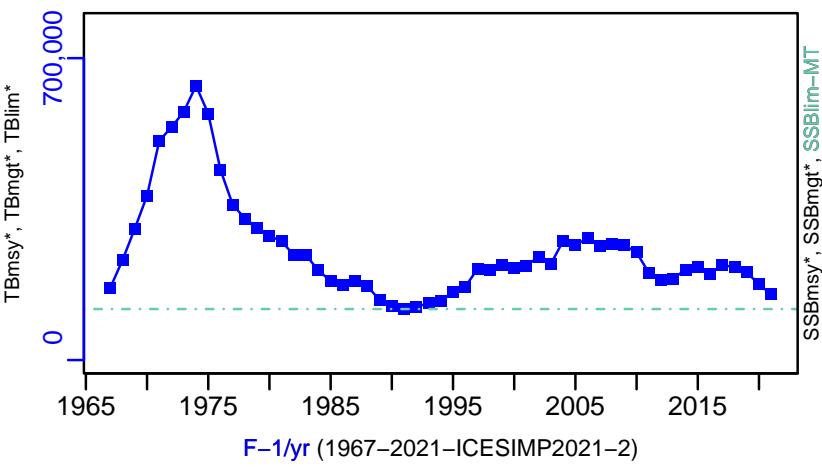
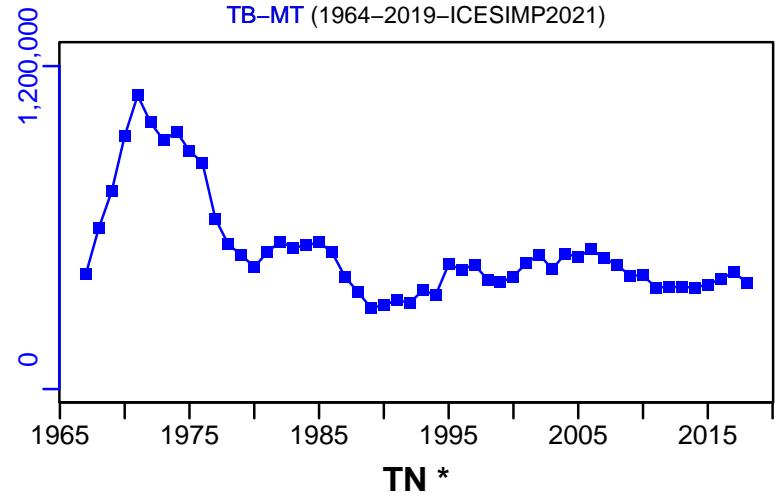


◆ Start Year   ◆ End Year   \* No Data

Saithe ICES 3a-4-6 [POLLNS-VI-IIla]

TB-MT (1964–2019–ICESIMP2021)

SSB-MT (1967–2021–ICESIMP2021–2)

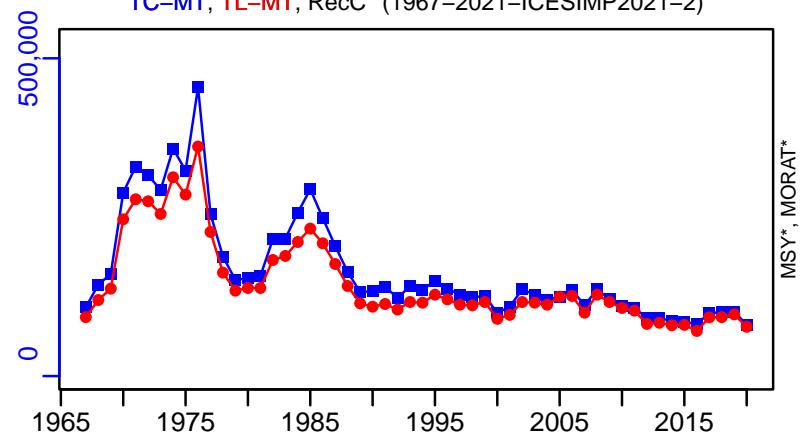


■ Listed time series	— Target BRP	— Rec-Est
- - - MSY-based BRP	--- Lim BRP	* No Data

Saithe ICES 3a-4-6 [POLLNS-VI-IIla]

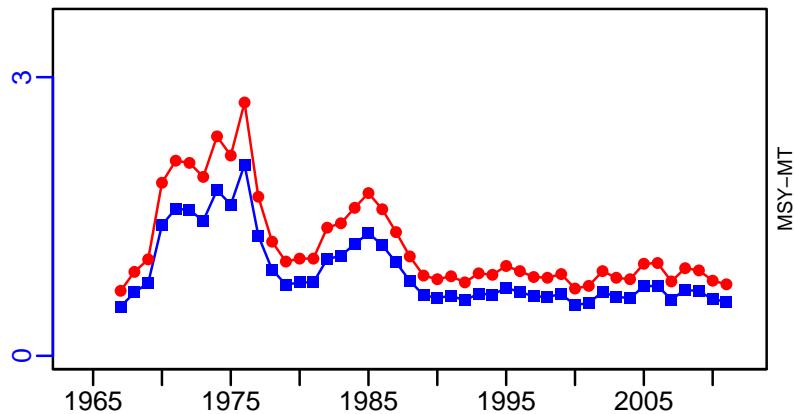
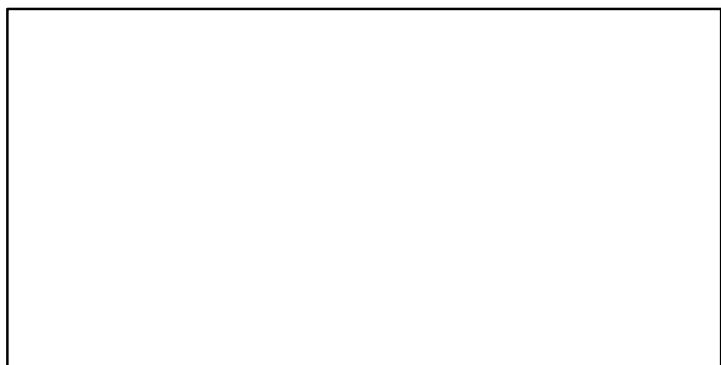
TC-MT, TL-MT, RecC\* (1967–2021–ICESIMP2021–2)

TAC\*, Cpair\*, Cadv\*



**EFFORT\***

TL-MT/MSY-MT, CdiveMEANC-ratio, (1964–2012–CHING)



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

## Poor cod Ligurian and North Tyrrhenian Sea [PRCODMEDGSA9]

Metadata	
<b>Scientific Name</b>	Trisopterus minutus
<b>Current Assess ID</b>	STECF-PRCODMEDGSA9-2004-2011-OSIO
<b>Area</b>	Ligurian and North Tyrrhenian Sea
<b>Management Authority</b>	General Fisheries Council for the Mediterranean, DG MARE, and national states
<b>Assessor</b>	Scientific, Technical and Economic Committee for Fisheries
<b>Asmts in RAM</b>	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>	Fmgt-1/yr	2011	0.74
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<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>	-	-	-	-	-
<b>SSB</b>	SSB-MT	2011	163	-	0+
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2011	$3 \times 10^6$	-	-
<b>F</b>	F-1/yr	2011	0.9	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2011	105		
<b>TL</b>	-	-	-		
<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>	F-1/yr/Fmgt-1/yr	2011	1.216		
<b>ER/ERmgt</b>	-	-	-		

**Kobe MSY\***

**Kobe MGT\***

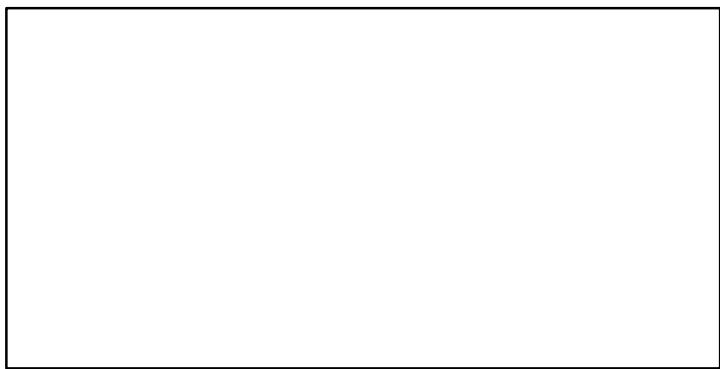
**Spawner Recruit\***

**Production\***

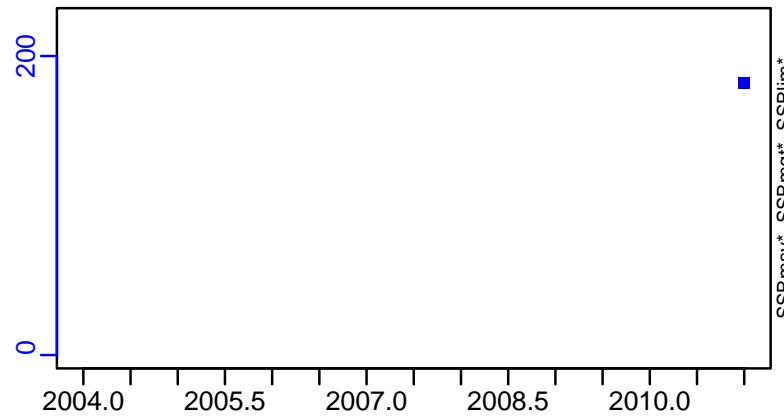
◆ Start Year ♦ End Year \* No Data

Poor cod Ligurian and North Tyrrhenian Sea [PRCODMEDGSA9]

**TB\***



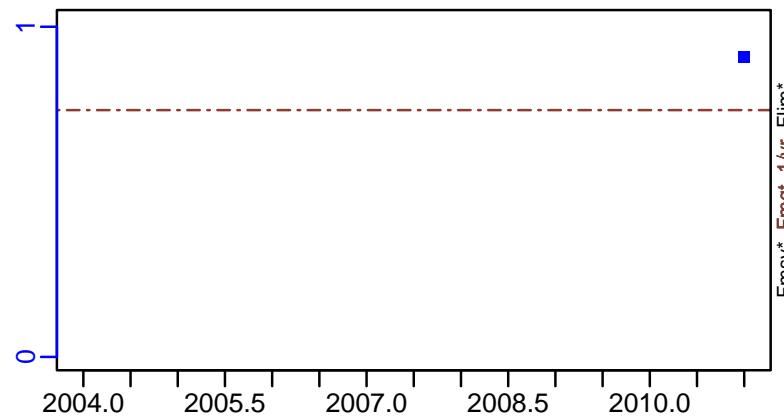
**SSB-MT** (2004–2011–OSIO)



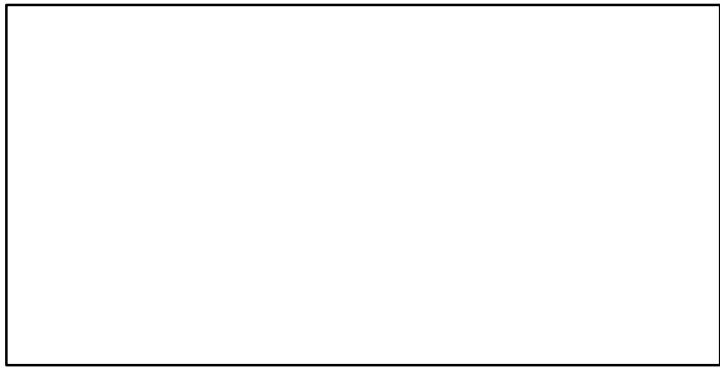
**TN \***



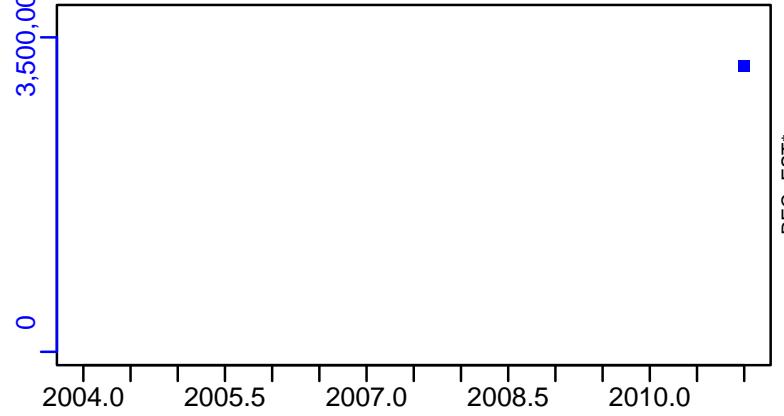
**F-1/yr** (2004–2011–OSIO)



**ER\***



**R-E00** (2004–2011–OSIO)

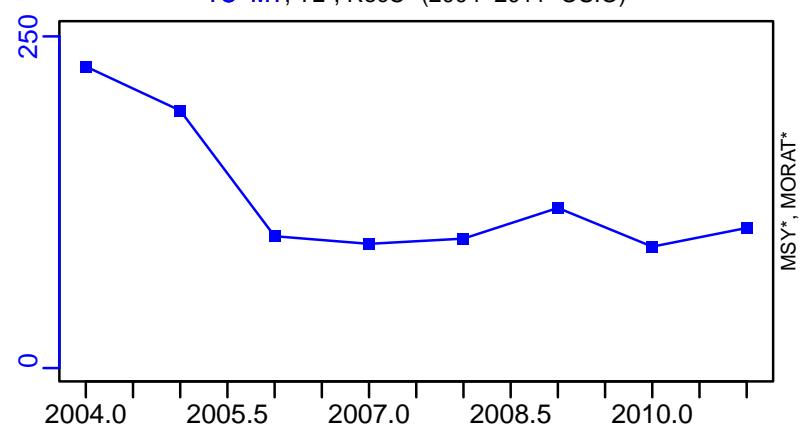


- Listed time series    - - - Target BRP    — Rec-Est
- - MSY-based BRP    - - Lim BRP    \* No Data

Poor cod Ligurian and North Tyrrhenian Sea [PRCODMEDGSA9]

TC-MT, TL\*, RecC\* (2004–2011–OSIO)

TAC\*, Cpair\*, Cadv\*



MSY\*, MORAT\*

survB\*

CPUE\*

EFFORT\*

CdivMSY\*

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

## Red hake Gulf of Maine / Northern Georges Bank [RHAKEGOMNGB]

<b>Metadata</b>	
<b>Scientific Name</b>	Urophycis chuss
<b>Current Assess ID</b>	NEFSC-RHAKEGOMNGB-1981-2019-SISIMP2021-2
<b>Area</b>	Gulf of Maine / Northern Georges Bank
<b>Management Authority</b>	National Marine Fisheries Service, US national management
<b>Assessor</b>	Northeast Fisheries Science Center
<b>Asmts in RAM</b>	2016, 2014, 2019

<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>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<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>	-	-	-	-	-	
<b>SSB</b>	-	-	-	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	-	-	-	-	-	
<b>F</b>	-	-	-	-	-	
<b>ER</b>	ER-ratio	2019	0.12	-	-	
<b>TC</b>	TC-MT	2019	236			
<b>TL</b>	-	-	-			
<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\***

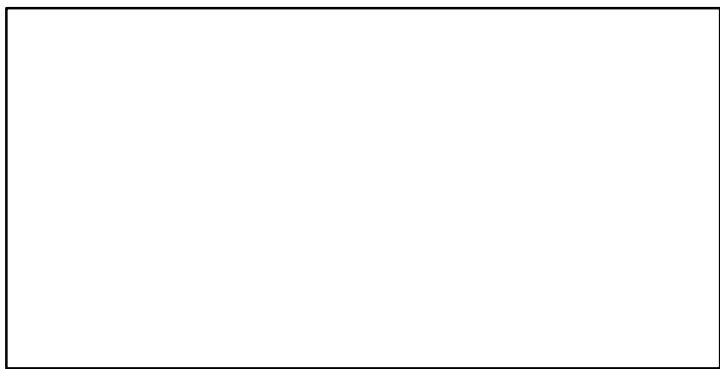
**Spawner Recruit\***

**Production\***

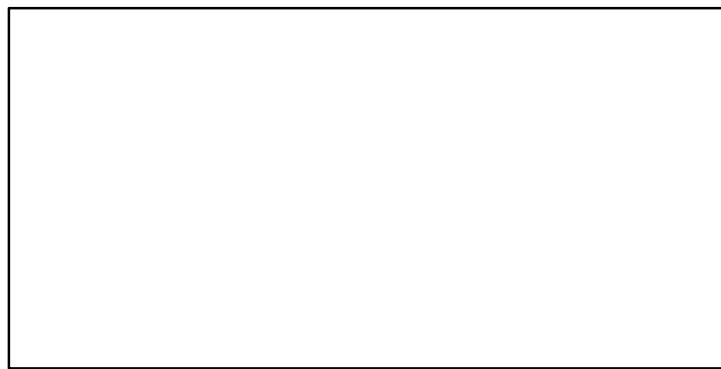
◆ Start Year   ◆ End Year   \* No Data

Red hake Gulf of Maine / Northern Georges Bank [RHAKEGOMNGB]

**TB\***



**SSB\***



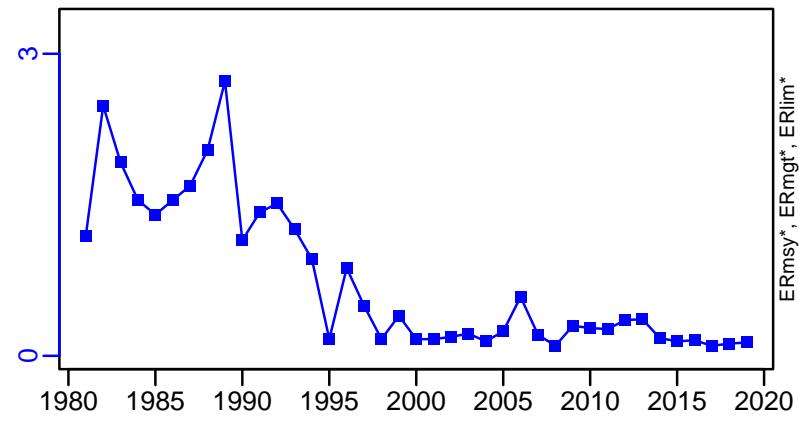
**TN \***



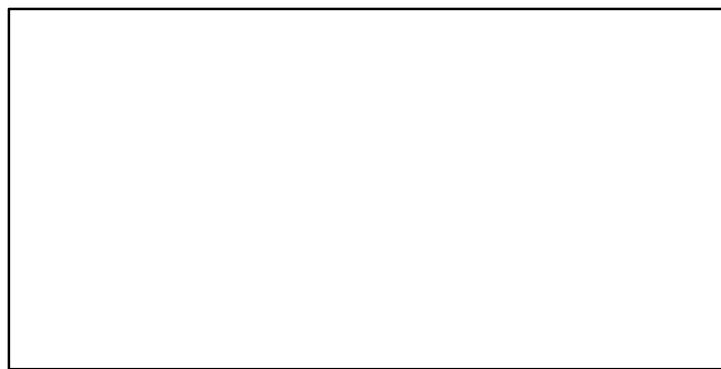
**F\***



ER-ratio (1981–2019–SISIMP2021–2)



Recruits\*

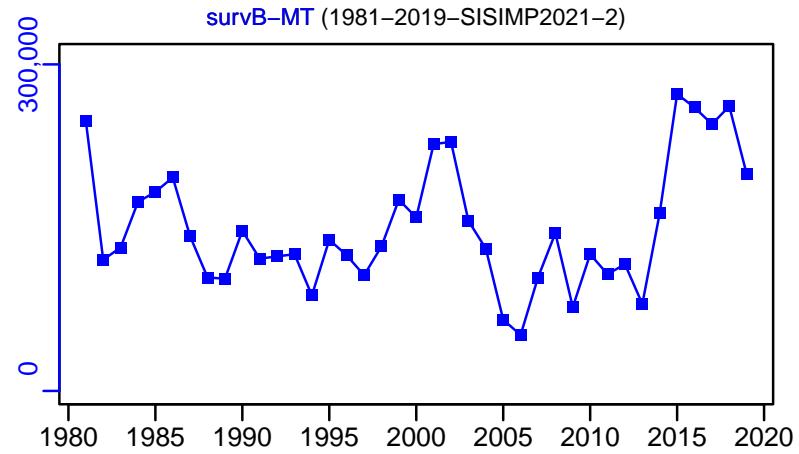
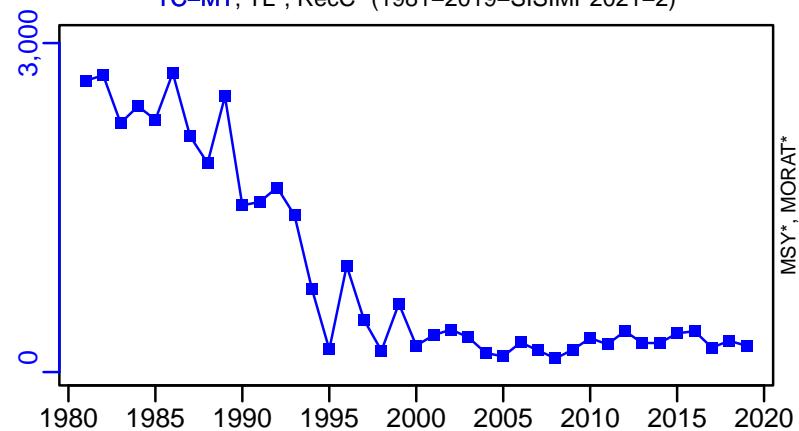


■ Listed time series	--- Target BRP	— Rec-Est
- - MSY-based BRP	··· Lim BRP	* No Data

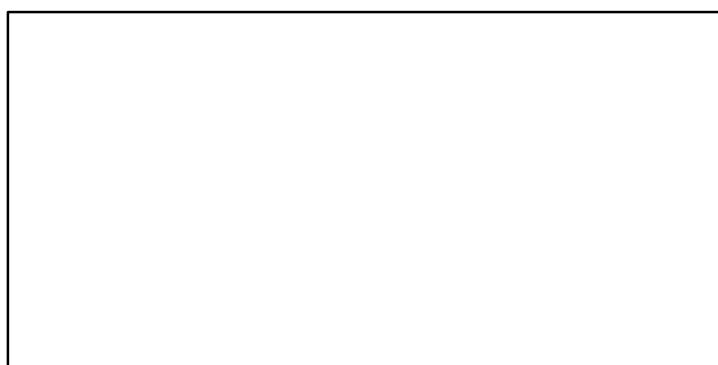
**Red hake Gulf of Maine / Northern Georges Bank [RHAKEGOMNGB]**

TC-MT, TL\*, RecC\* (1981–2019–SISIMP2021–2)

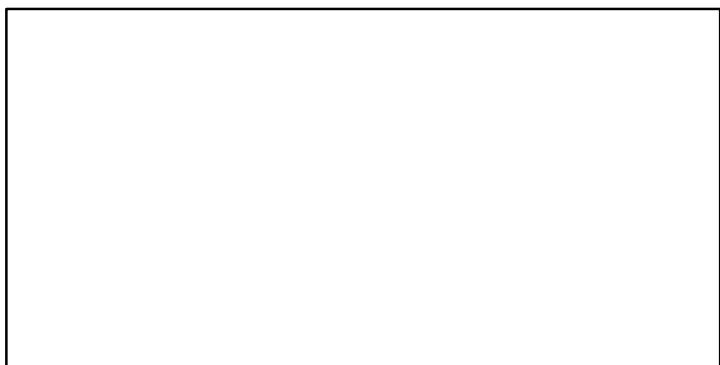
TAC\*, Cpair\*, Cadv\*



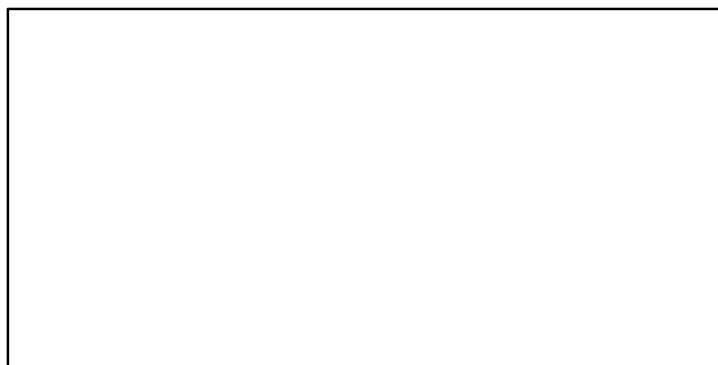
CPUE\*



EFFORT\*



CdivMSY\*



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

## Red hake Southern Georges Bank / Mid-Atlantic [RHAKESGBMATL]

<b>Metadata</b>	
<b>Scientific Name</b>	Urophycis chuss
<b>Current Assess ID</b>	NEFSC-RHAKESGBMATL-1981-2019-SISIMP2021-2
<b>Area</b>	Southern Georges Bank / Mid-Atlantic
<b>Management Authority</b>	National Marine Fisheries Service, US national management
<b>Assessor</b>	Northeast Fisheries Science Center
<b>Asmts in RAM</b>	2016, 2014, 2019

<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>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<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>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2019	2.53	-	-
<b>TC</b>	TC-MT	2019	1890		
<b>TL</b>	-	-	-		
<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\***

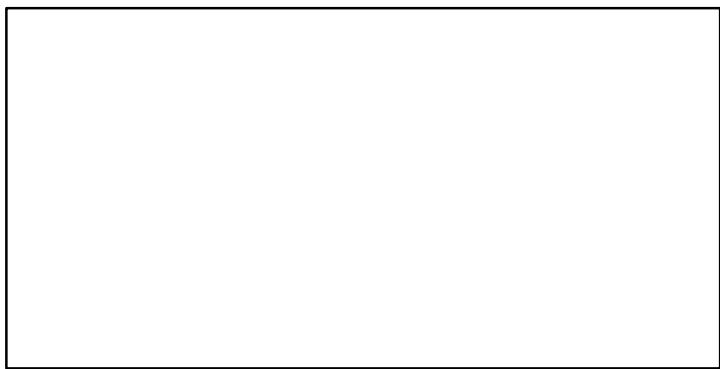
**Spawner Recruit\***

**Production\***

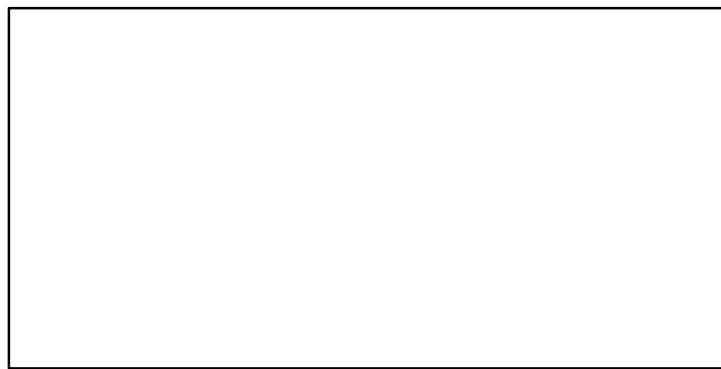
◆ Start Year   ◆ End Year   \* No Data

**Red hake Southern Georges Bank / Mid-Atlantic [RHAKESGBMATL]**

**TB\***



**SSB\***



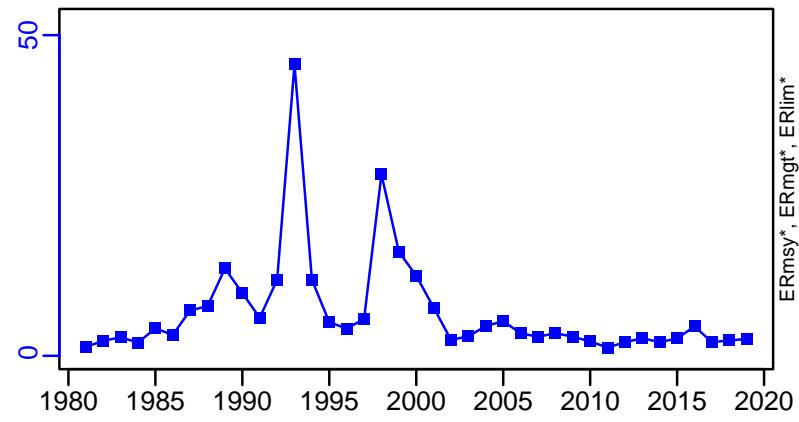
**TN \***



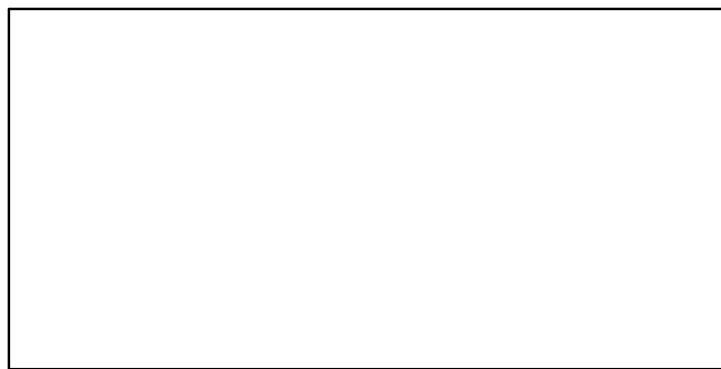
**F\***



**ER-ratio (1981–2019–SISIMP2021–2)**



**Recruits\***

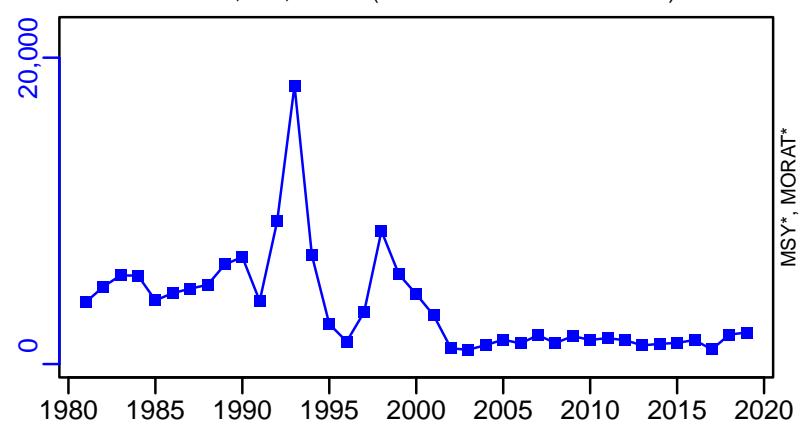


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	--- Lim BRP	* No Data

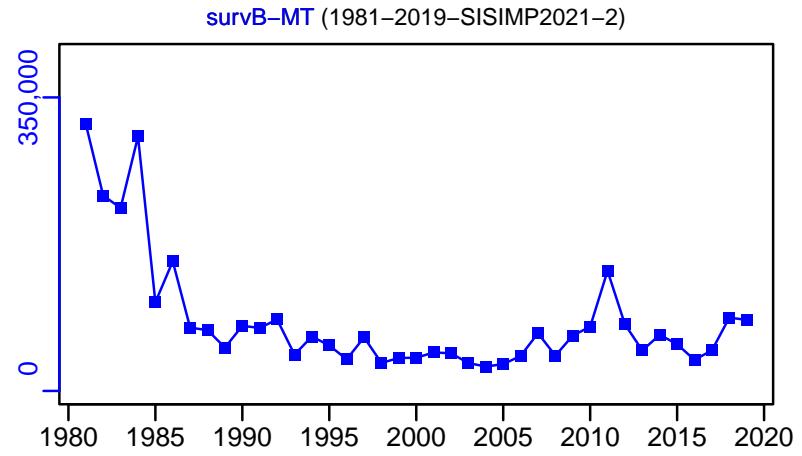
**Red hake Southern Georges Bank / Mid-Atlantic [RHAKESGBMATL]**

TC-MT, TL\*, RecC\* (1981–2019–SISIMP2021–2)

TAC\*, Cpair\*, Cadv\*



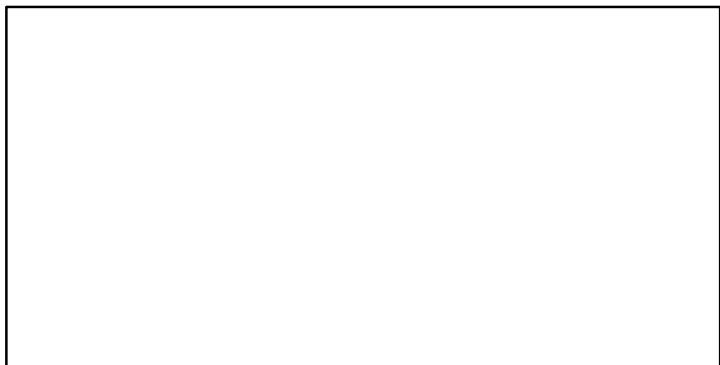
MSY\*, MORAT\*



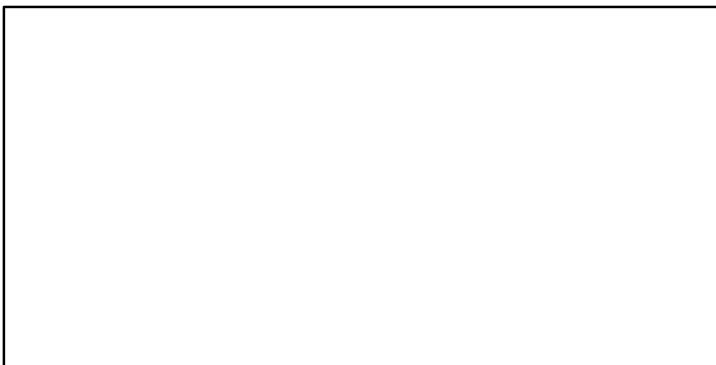
CPUE\*



EFFORT\*



CdivMSY\*



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

## Roughhead grenadier Northeast Atlantic [RHGRENNEATL]

Metadata	
<b>Scientific Name</b>	Macrourus berglax
<b>Current Assess ID</b>	WGDEEP-RHGRENNEATL-1990-2019-ICESIMP2021-2
<b>Area</b>	Northeast Atlantic
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources
<b>Asmts in RAM</b>	2015, 2019

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>	-	-	-
<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>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	-	-	-		
<b>TL</b>	TL-MT	2019	259		
<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>	-	-	-		

Roughhead grenadier Northeast Atlantic [RHGRENNEATL]

**Kobe MSY\***

**Kobe MGT\***

**Spawner Recruit\***

**Production\***

◆ Start Year ♦ End Year \* No Data

Roughhead grenadier Northeast Atlantic [RHGRENNEATL]

**TB\***



**SSB\***



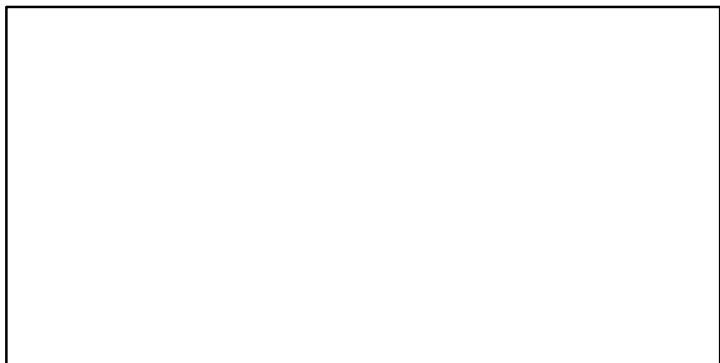
**TN \***



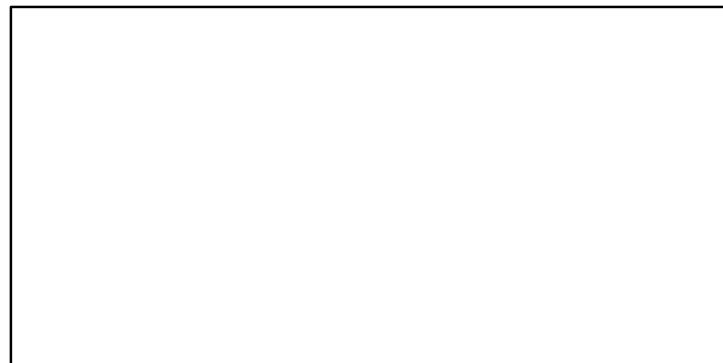
**F\***



**ER\***



**Recruits\***

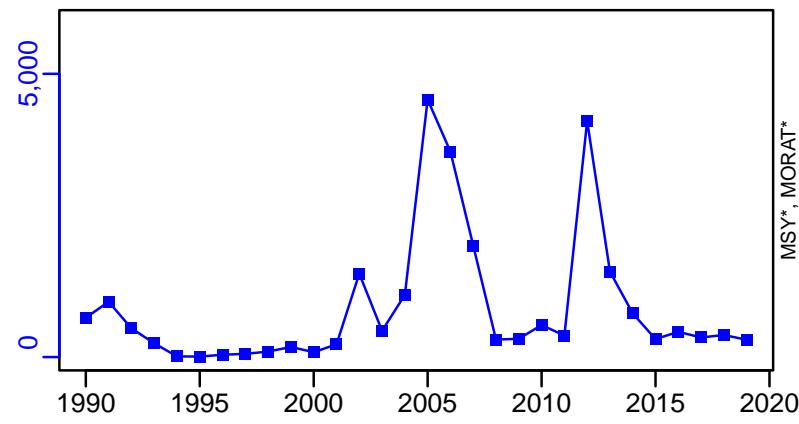


- |                      |                  |           |
|----------------------|------------------|-----------|
| ■ Listed time series | - - - Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP    | * No Data |

Roughhead grenadier Northeast Atlantic [RHGRENNEATL]

TL-MT, TC\*, RecC\* (1990–2019–ICESIMP2021–2)

TAC\*, Cpair\*, Cadv\*



survB\*

MSY\*, MORAT\*



CPUE\*



EFFORT\*



CdivMSY\*



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

**Roundnose grenadier ICES 1-2-4-5a2-8-9-14ab2 [RNGENI-II-IV-Va2-VIII-IX-XIVab2]**

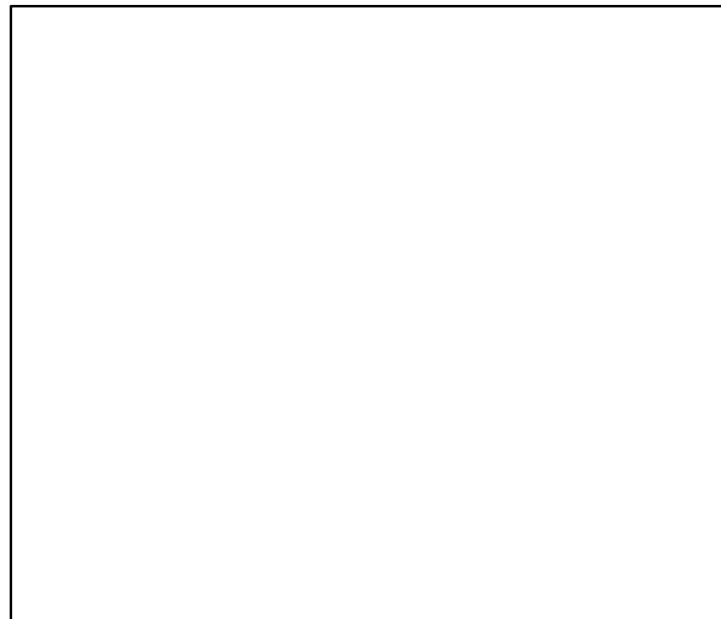
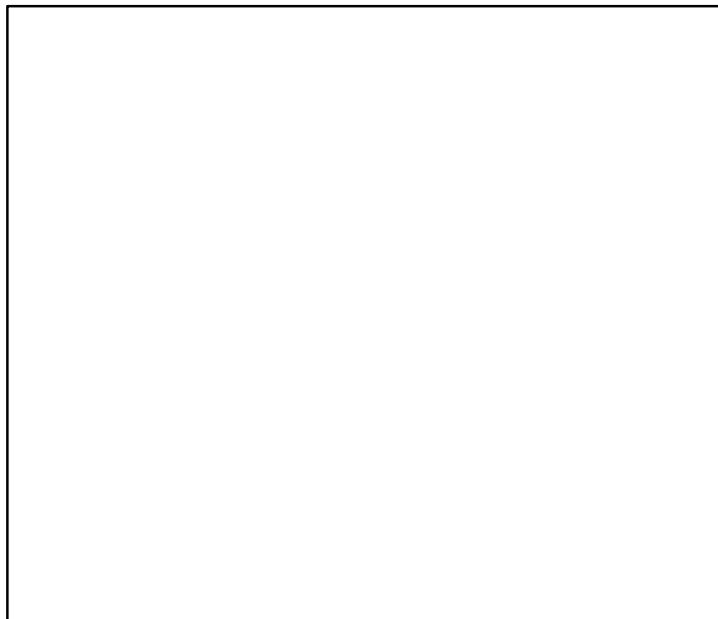
Metadata	
<b>Scientific Name</b>	Coryphaenoides rupestris
<b>Current Assess ID</b>	WGDEEP-RNGENI-II-IV-Va2-VIII-IX-XIVab2-1990-2018-ICESIMP2021
<b>Area</b>	ICES 1-2-4-5a2-8-9-14ab2
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources
<b>Asmts in RAM</b>	2015, 2016, 2018

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>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

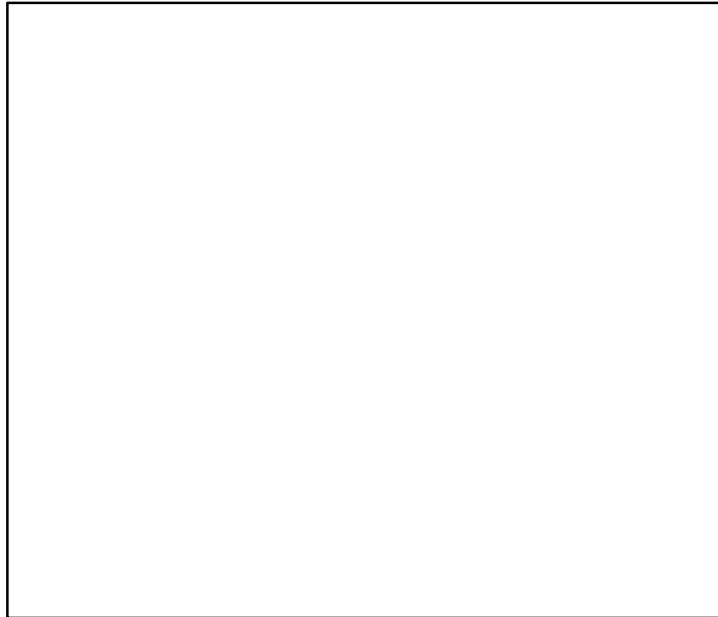
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	-	-	-		
<b>TL</b>	TL-MT	2018	240		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

**Kobe MSY\***

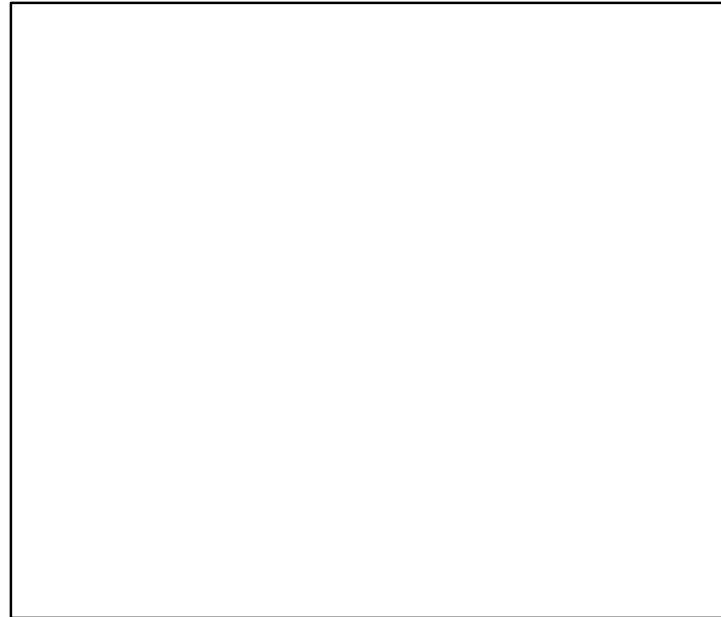
**Kobe MGT\***



**Spawner Recruit\***



**Production\***



◆ Start Year ◆ End Year \* No Data

**TB\***



**SSB\***



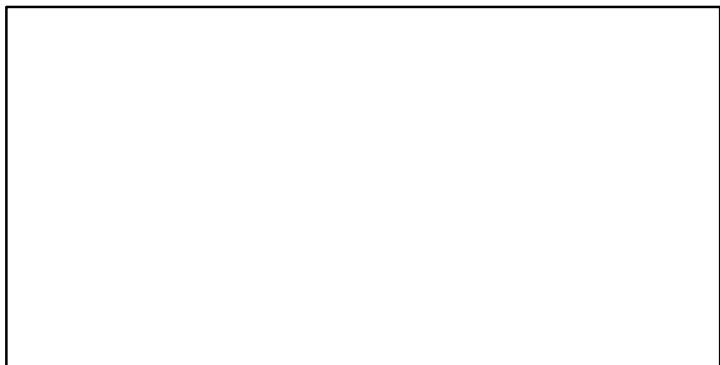
**TN \***



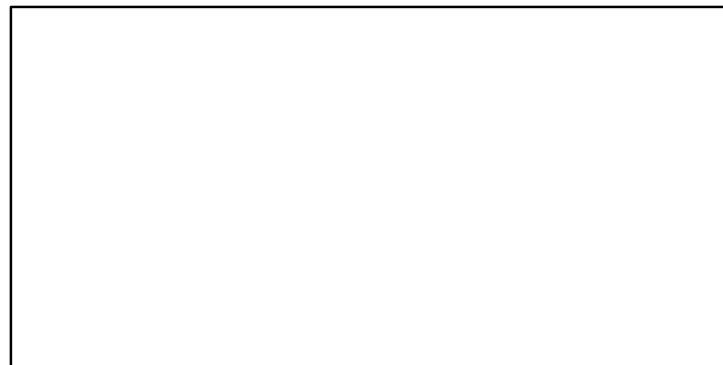
**F\***



**ER\***



**Recruits\***

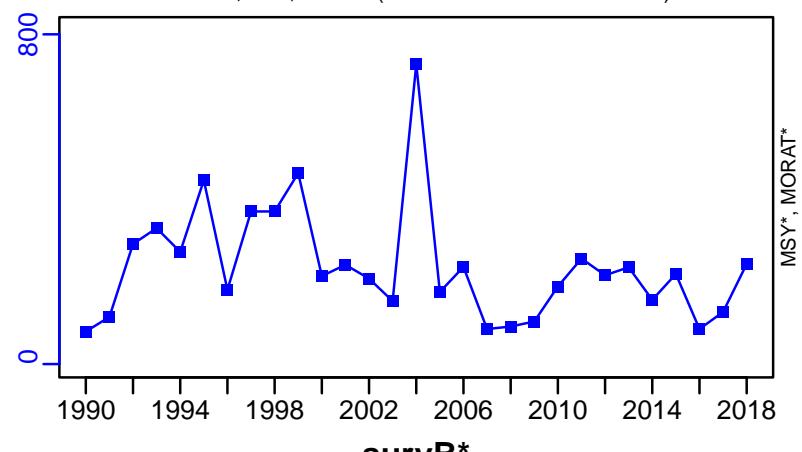


- |                      |                  |           |
|----------------------|------------------|-----------|
| ■ Listed time series | - - - Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP    | * No Data |

Roundnose grenadier ICES 1–2–4–5a2–8–9–14ab2 [RNGENI–II–IV–Va2–VIII–IX–XIVab2]

TL–MT, TC\*, RecC\* (1990–2018–ICESIMP2021)

TAC\*, Cpair\*, Cadv\*



survB\*

CPUE\*

EFFORT\*

CdivMSY\*

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

## Roundnose grenadier Mid-Atlantic Ridge [RNGENMATLR]

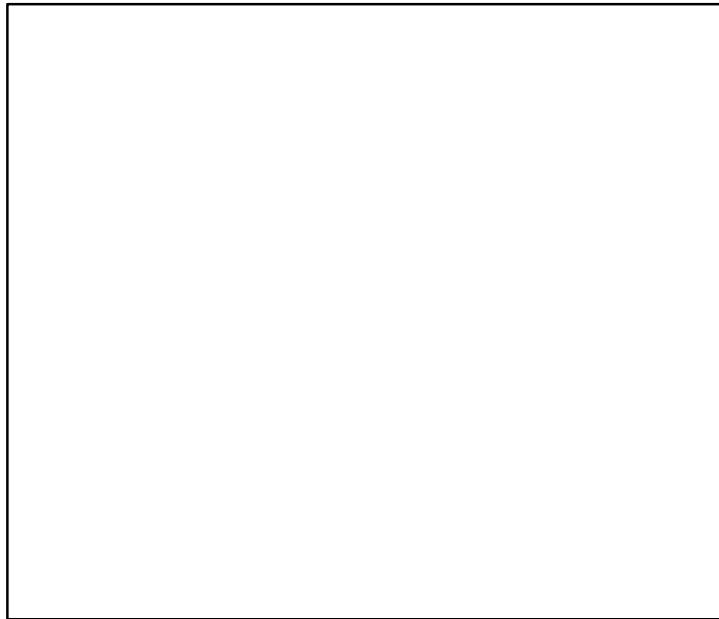
<b>Metadata</b>	
<b>Scientific Name</b>	Coryphaenoides rupestris
<b>Current Assess ID</b>	WGDEEP-RNGENMATLR-1973-2018-ICESIMP2021
<b>Area</b>	Mid-Atlantic Ridge
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources
<b>Asmts in RAM</b>	2016, 2018, 2015

<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>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

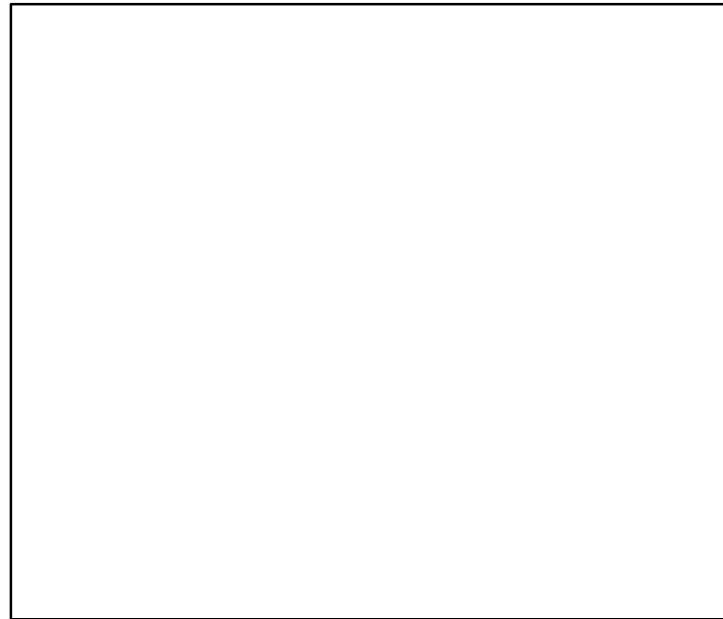
<b>Time Series</b>					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	-	-	-		
<b>TL</b>	TL-MT	2018	27		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

Roundnose grenadier Mid-Atlantic Ridge [RNGENMATLR]

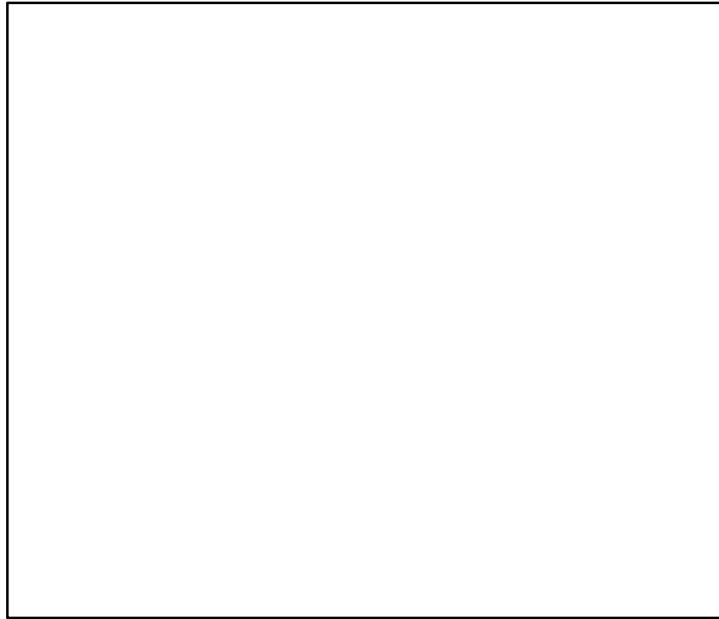
**Kobe MSY\***



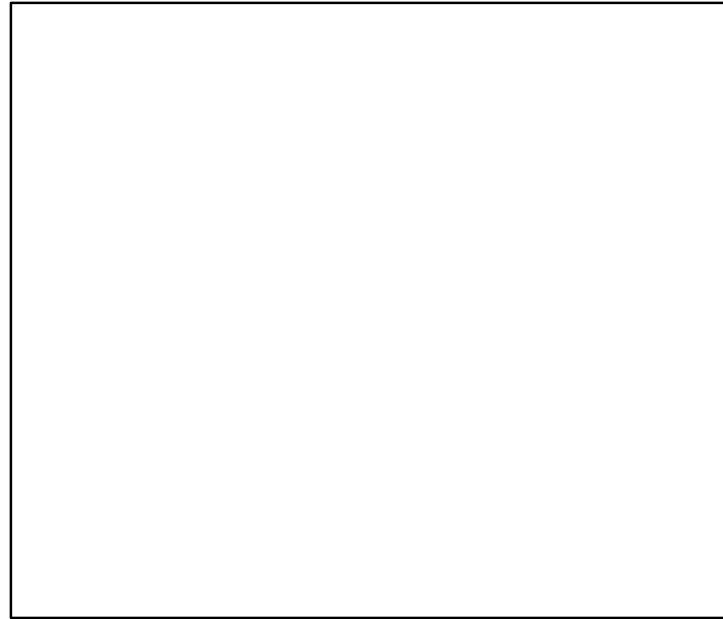
**Kobe MGT\***



**Spawner Recruit\***



**Production\***



◆ Start Year ♦ End Year \* No Data

Roundnose grenadier Mid-Atlantic Ridge [RNGENMATLR]

**TB\***



**SSB\***



**TN \***



**F\***



**ER\***



**Recruits\***

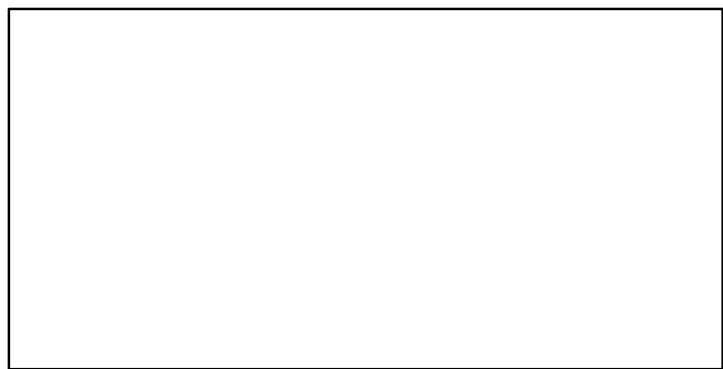
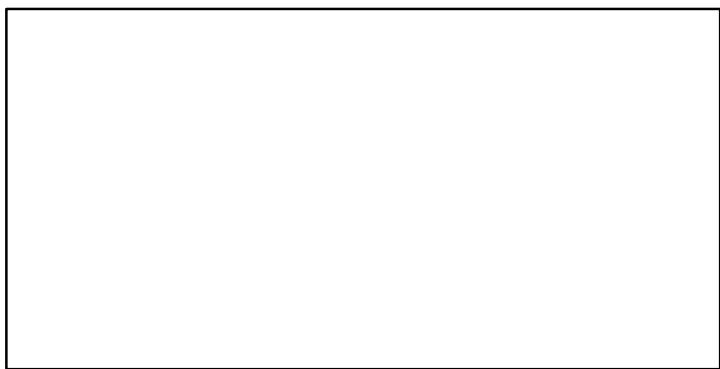
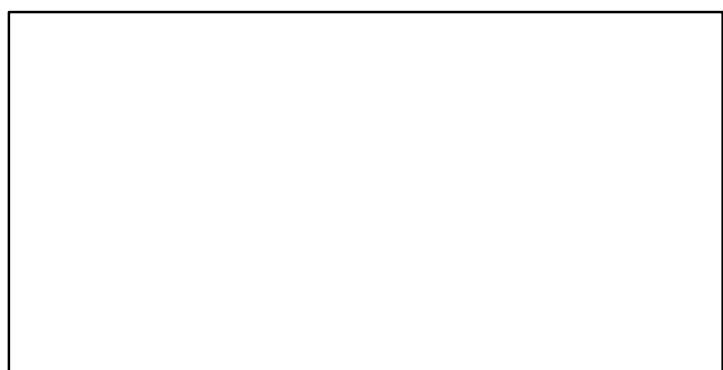
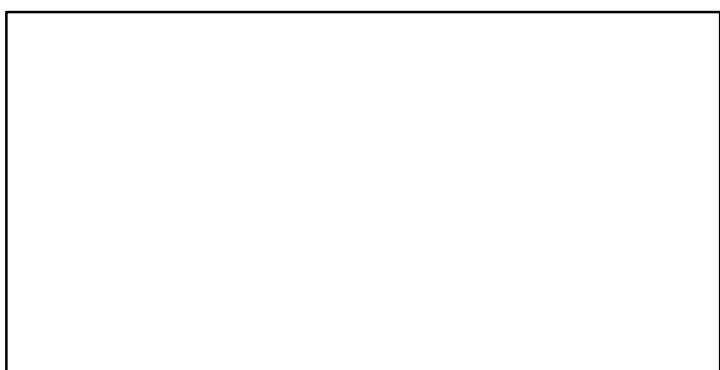
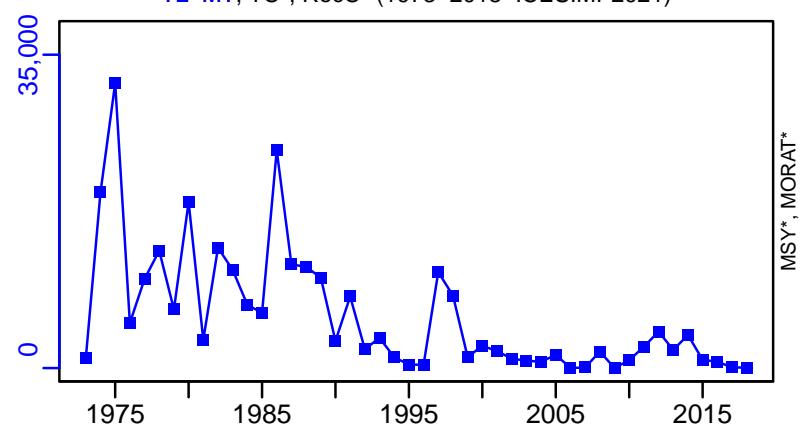


- |                      |                  |           |
|----------------------|------------------|-----------|
| ■ Listed time series | - - - Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP    | * No Data |

Roundnose grenadier Mid-Atlantic Ridge [RNGENMATLR]

TL-MT, TC\*, RecC\* (1973–2018–ICESIMP2021)

TAC\*, Cpair\*, Cadv\*



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

## Roundnose grenadier ICES 5b-6-7-12b [RNGENVb-VI-VII-XIIb]

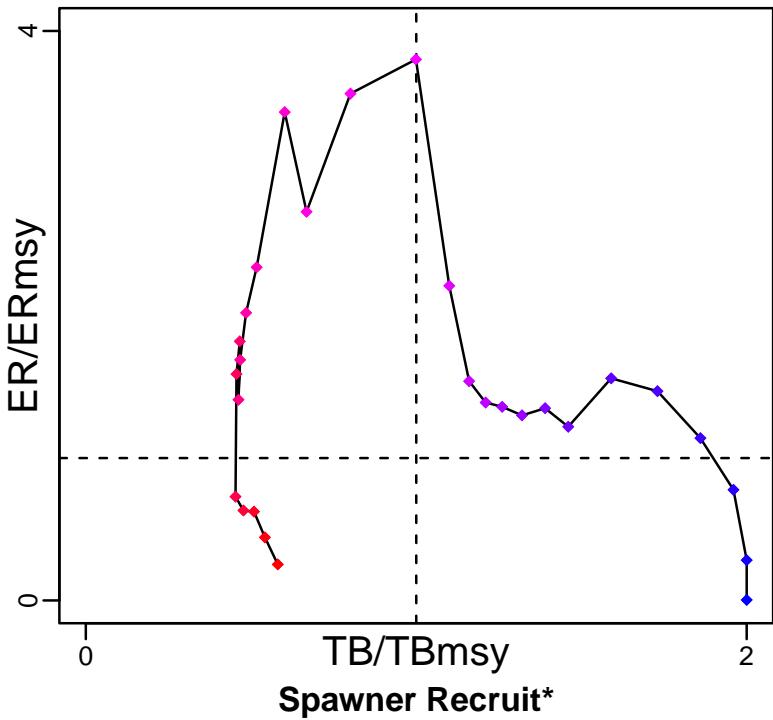
<b>Metadata</b>	
<b>Scientific Name</b>	Coryphaenoides rupestris
<b>Current Assess ID</b>	WGDEEP-RNGENVb-VI-VII-XIIb-1988-2019-ICESIMP2021-2
<b>Area</b>	ICES 5b-6-7-12b
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources
<b>Asmts in RAM</b>	2016, 2017, 2019

<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>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

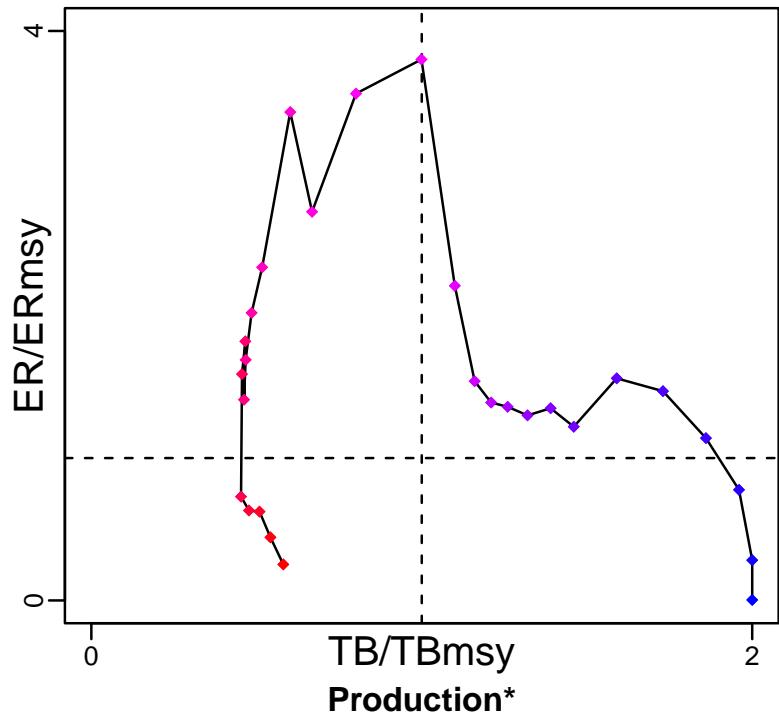
<b>Time Series</b>						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	-	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-	-
<b>TN</b>	-	-	-	-	-	-
<b>R</b>	-	-	-	-	-	-
<b>F</b>	-	-	-	-	-	-
<b>ER</b>	-	-	-	-	-	-
<b>TC</b>	-	-	-			
<b>TL</b>	TL-MT	2019	689			
<b>TB/TBmsy</b>	TBdivTBmsy-dimensionless	2016	0.581			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	-	-	-			
<b>ER/ERmsy</b>	ERdivERmsy-dimensionless	2016	0.253			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

Roundnose grenadier ICES 5b–6–7–12b [RNGENVb–VI–VII–XIIb]

Kobe MSYpref (1988–2016–ICESIMP2016)



Kobe MGTpref (1988–2016–ICESIMP2016)



Spawner Recruit\*

Production\*

◆ Start Year    ♦ End Year    \* No Data

**Roundnose grenadier ICES 5b–6–7–12b [RNGENVb–VI–VII–XIIb]**

**TB\***



**SSB\***



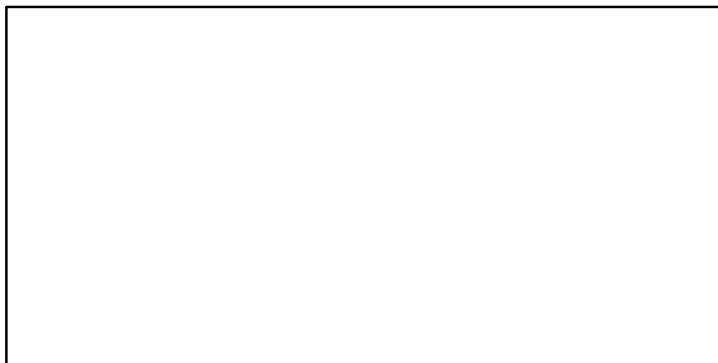
**TN \***



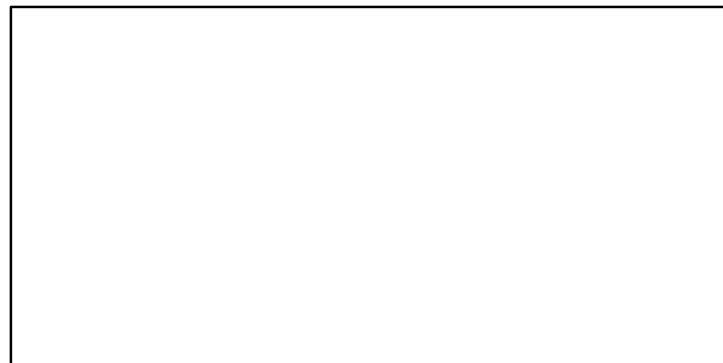
**F\***



**ER\***



**Recruits\***

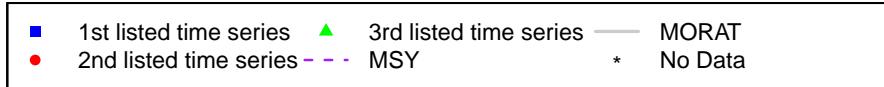
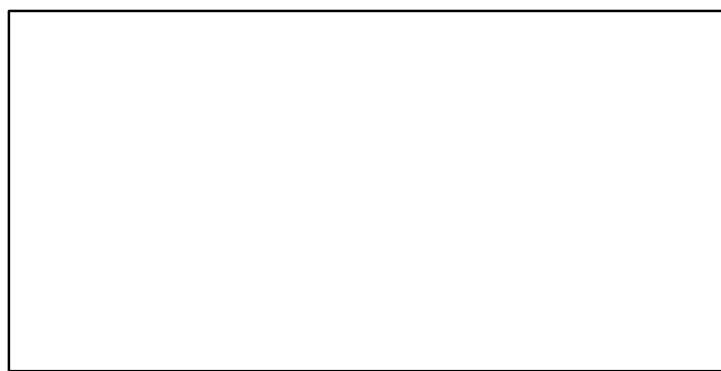
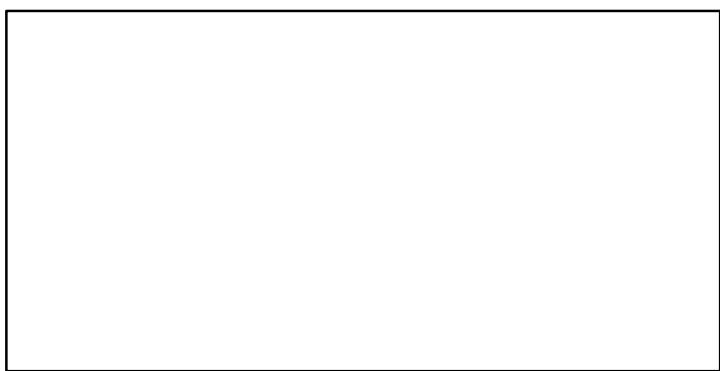
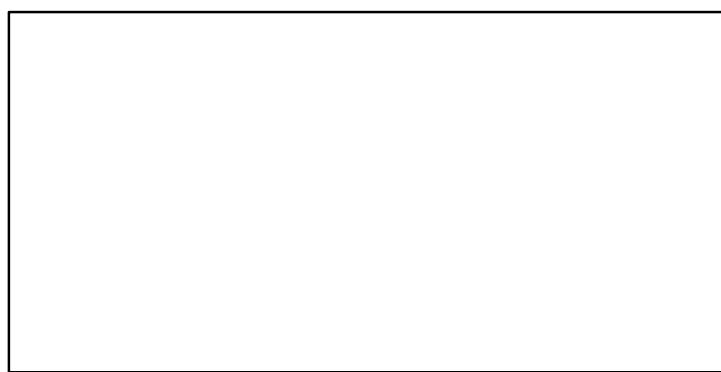
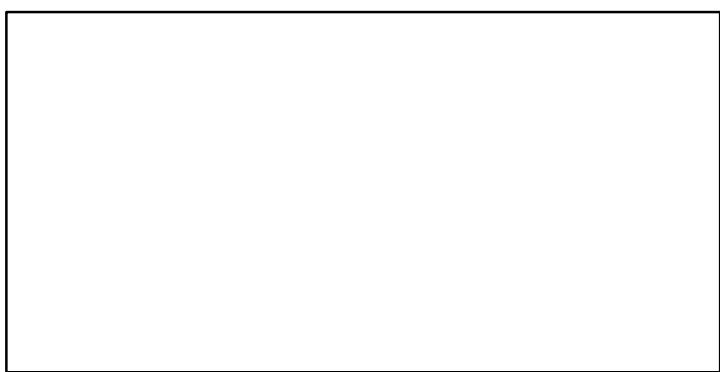
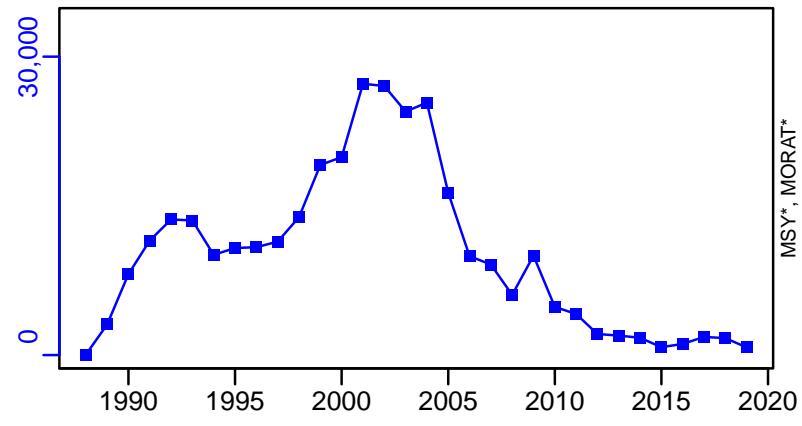


- |                      |                  |           |
|----------------------|------------------|-----------|
| ■ Listed time series | - - - Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP    | * No Data |

**Roundnose grenadier ICES 5b–6–7–12b [RNGENVb–VI–VII–XIIb]**

TL–MT, TC\*, RecC\* (1988–2019–ICESIMP2021–2)

TAC\*, Cpair\*, Cadv\*



## Roundnose grenadier Kattegat and Skagerrak [RNGRENIIIA]

<b>Metadata</b>	
<b>Scientific Name</b>	Coryphaenoides rupestris
<b>Current Assess ID</b>	WGDEEP-RNGRENIIIA-1985-2019-ICESIMP2021-2
<b>Area</b>	Kattegat and Skagerrak
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources
<b>Asmts in RAM</b>	2019, 2016, 2017

<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>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<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>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2016	2		
<b>TL</b>	TL-MT	2019	0.99		
<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>	-	-	-		

Roundnose grenadier Kattegat and Skagerrak [RNGRENIIla]

**Kobe MSY\***

**Kobe MGT\***

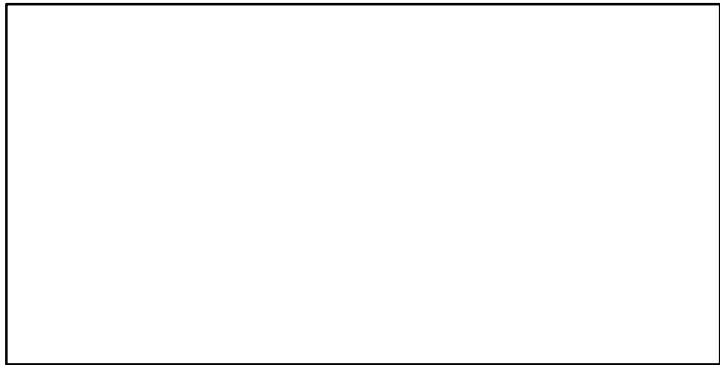
**Spawner Recruit\***

**Production\***

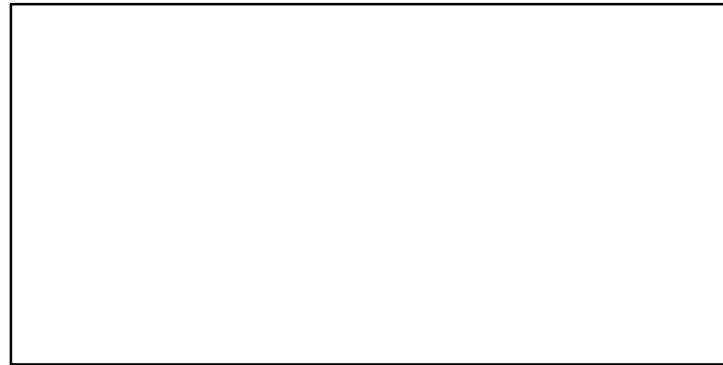
◆ Start Year ♦ End Year \* No Data

**Roundnose grenadier Kattegat and Skagerrak [RNGRENIIla]**

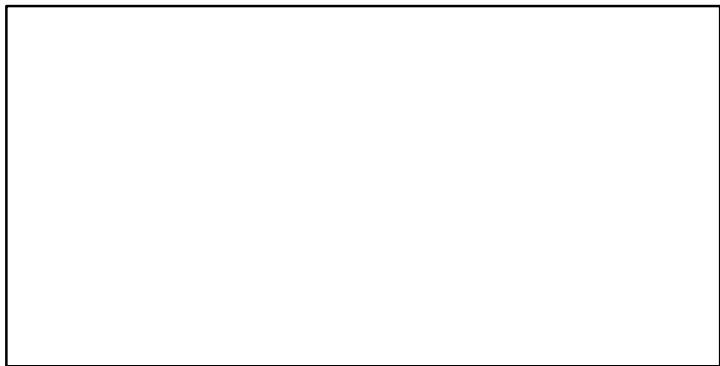
**TB\***



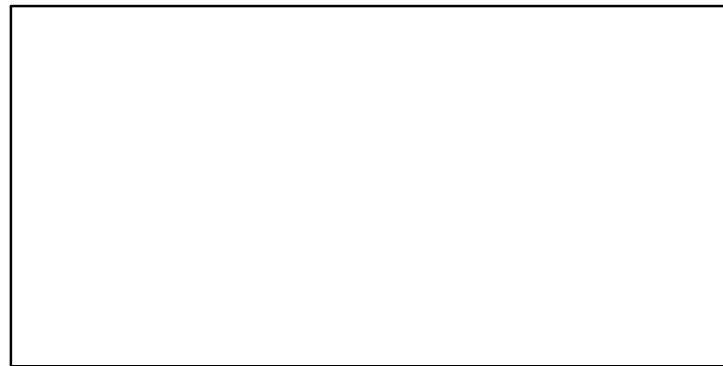
**SSB\***



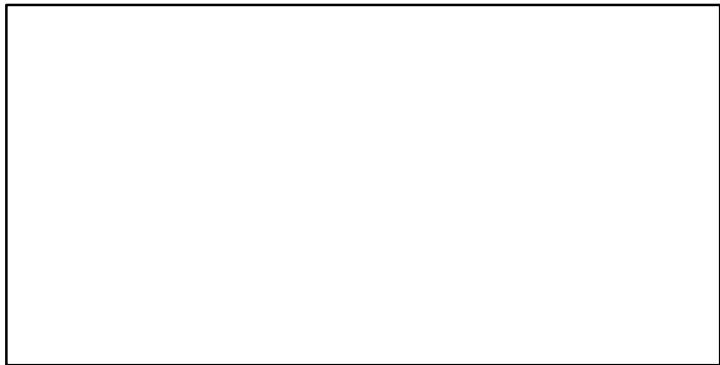
**TN \***



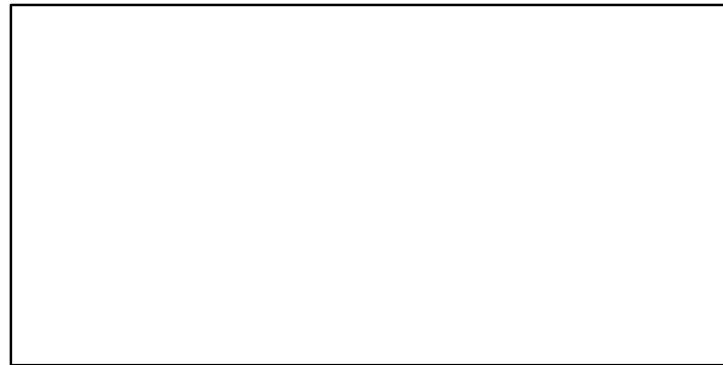
**F\***



**ER\***



**Recruits\***

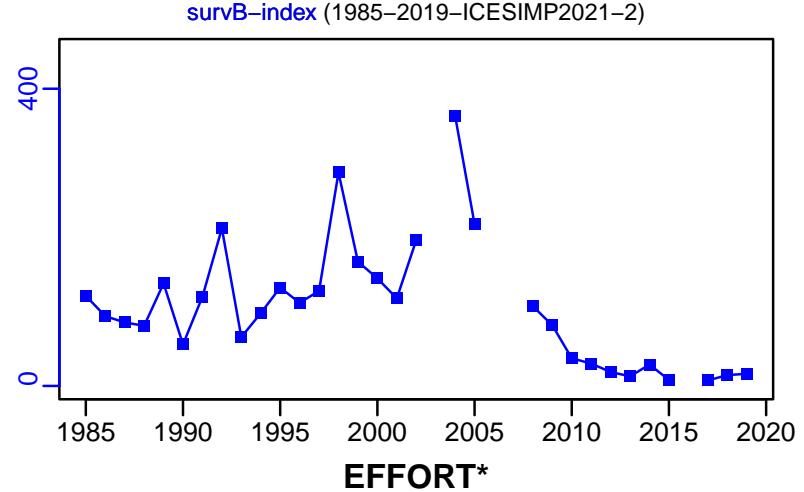
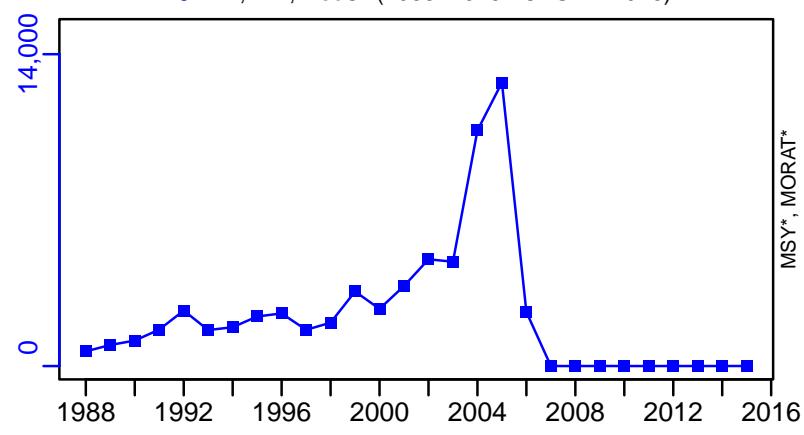


- |                      |                  |           |
|----------------------|------------------|-----------|
| ■ Listed time series | - - - Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP    | * No Data |

Roundnose grenadier Kattegat and Skagerrak [RNGRENIIla]

TC-MT, TL\*, RecC\* (1988–2016–ICESIMP2016)

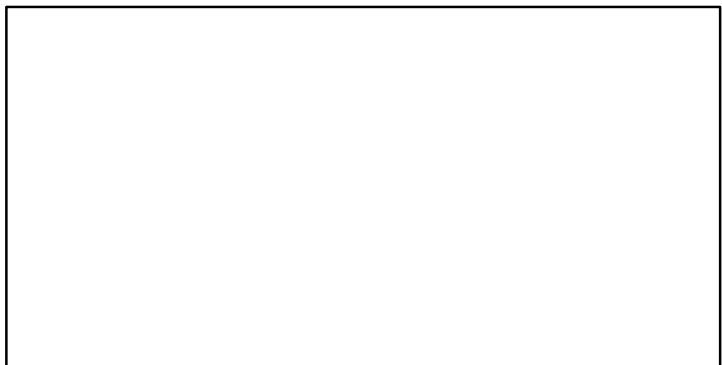
TAC\*, Cpair\*, Cadv\*



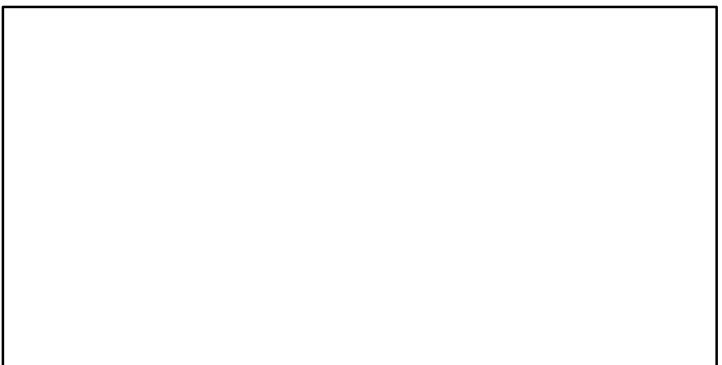
CPUE\*



EFFORT\*



CdivMSY\*



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

## Southern blue whiting Campbell Island Rise [SBWHITACIR]

Metadata	
<b>Scientific Name</b>	Micromesistius australis
<b>Current Assess ID</b>	NZMFishMIDDEPTHSWG-SBWHTACIR-1977-2013-FU
<b>Area</b>	Campbell Island Rise
<b>Management Authority</b>	Ministry of Fisheries, New Zealand national management
<b>Assessor</b>	Middle Depths Working Group
<b>Asmts in RAM</b>	2013, 2011

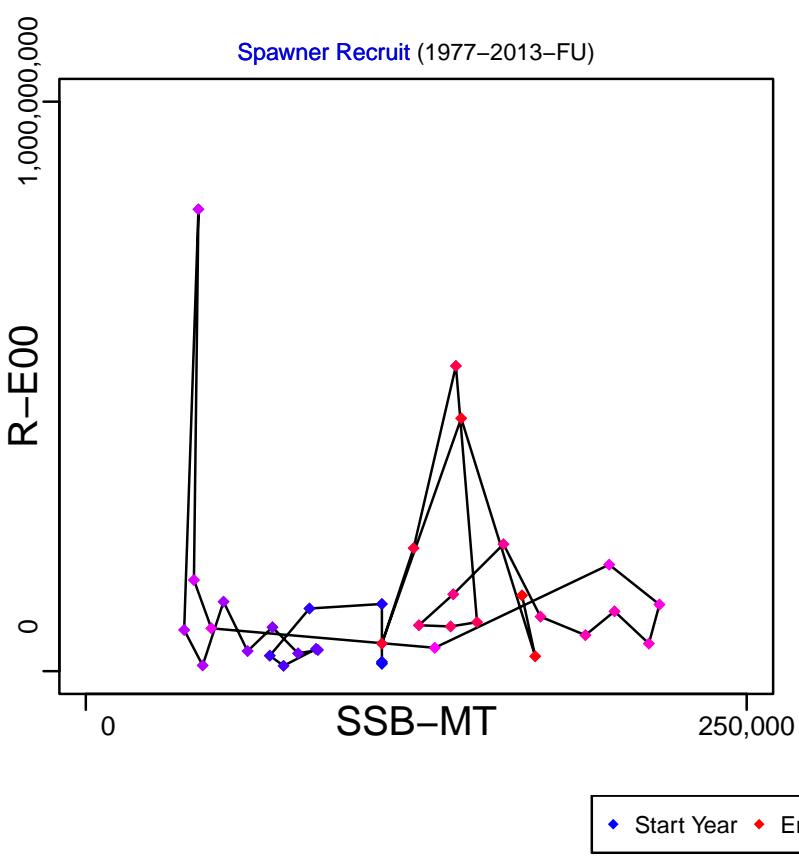
Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	SSBmsy-MT	2013	134,634
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2013	134,634
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	SSB0-MT	2013	336,585
<b>MSY</b>	-	-	-
<b>M</b>	M-1/yr	2013	0.2
<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>	-	-	-	-	-
<b>SSB</b>	SSB-MT	2013	196,000	-	2 to 15
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2013	$1.33 \times 10^8$	Both	-
<b>F</b>	F-1/yr	2011	0.145	-	-
<b>ER</b>	ER-ratio	2013	0.14	Both	2 to 15
<b>TC</b>	TC-MT	2013	28,600		
<b>TL</b>	-	-	-		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2013	1.456		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2013	1.456		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

Southern blue whiting Campbell Island Rise [SBWHITACIR]

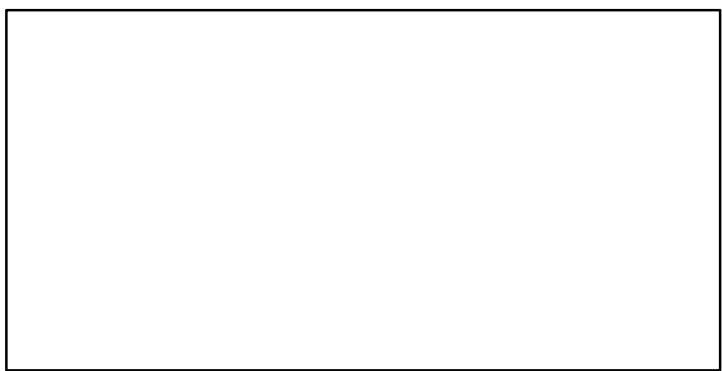
Kobe MSY\*

Kobe MGT\*

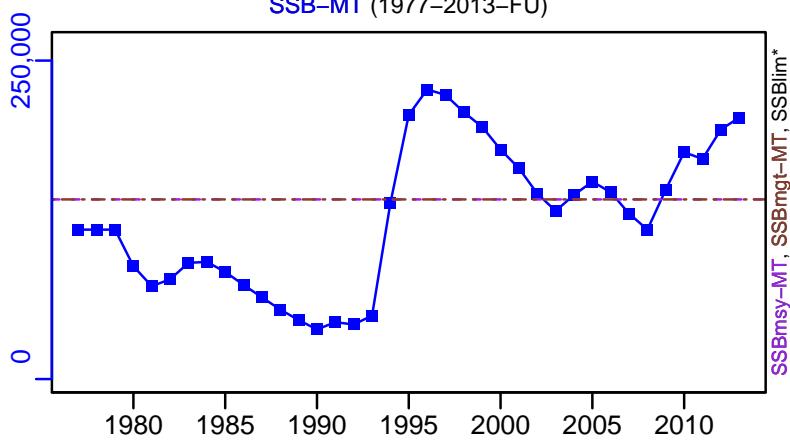


Southern blue whiting Campbell Island Rise [SBWHITACIR]

**TB\***



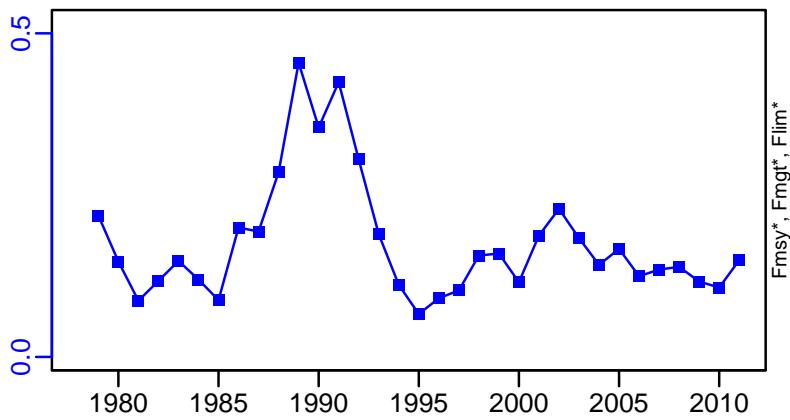
**SSB-MT (1977–2013–FU)**



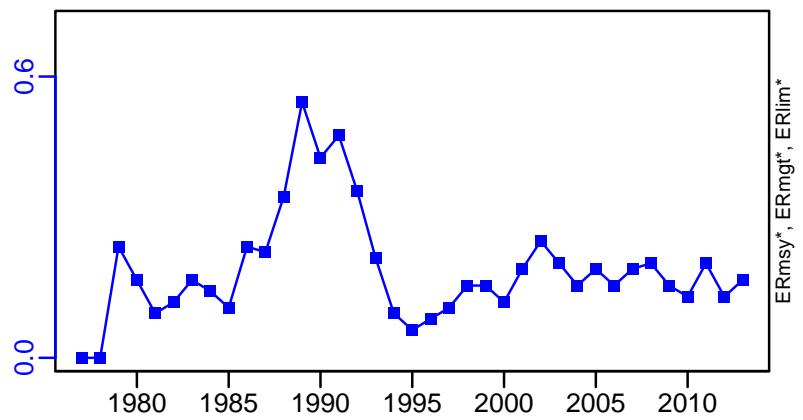
**TN \***



**F-1/yr (1978–2011–CHING)**

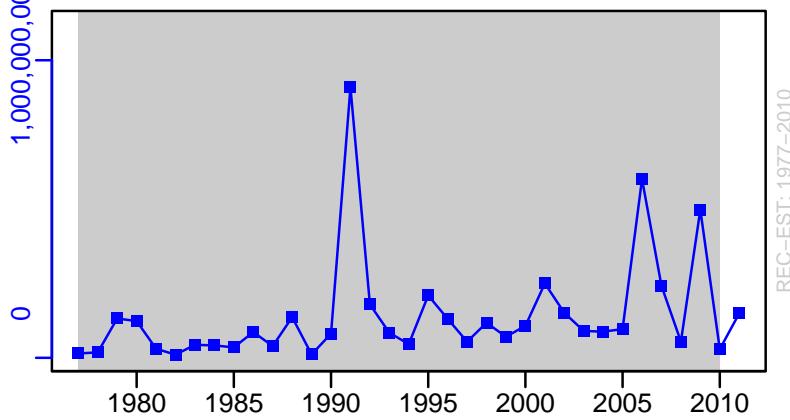


**ER-ratio (1977–2013–FU)**



ER<sub>MSY</sub>\* , ER<sub>Mgt\*</sub> , ER<sub>Lim\*</sub>

**R-E00 (1977–2013–FU)**



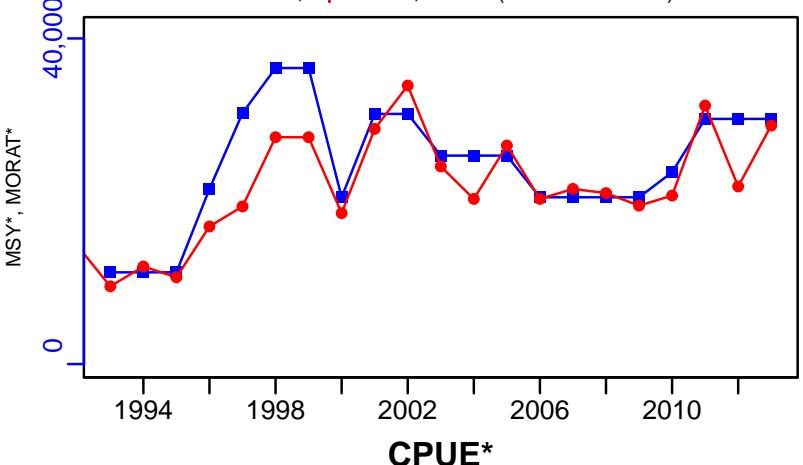
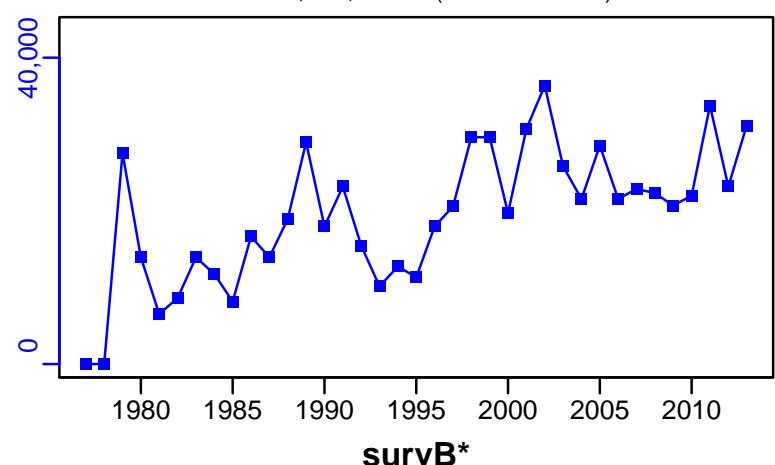
REC-EST: 1977–2010

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

**Southern blue whiting Campbell Island Rise [SBWHITACIR]**

TC-MT, TL\*, RecC\* (1977–2013–FU)

TAC-MT, Cpair-MT, Cadv\* (1977–2013–FU)



**survB\***

**CPUE\***

**EFFORT\***

**CdivMSY\***

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

## Southern blue whiting Southern Argentina [SBWHITARGS]

Metadata	
<b>Scientific Name</b>	Micromesistius australis
<b>Current Assess ID</b>	INIDEP-SBWHITARGS-1985-2020-PARMA
<b>Area</b>	Southern Argentina
<b>Management Authority</b>	Consejo Federal Pesquero, Argentina national management
<b>Assessor</b>	Instituto Nacional de Investigacion y Desarrollo Pesquero
<b>Asmts in RAM</b>	2007, 2015, 2020

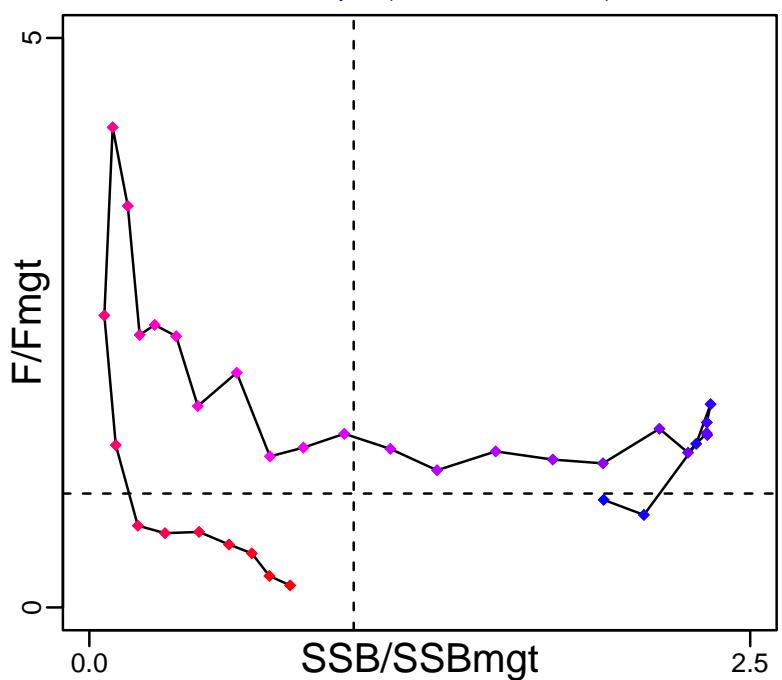
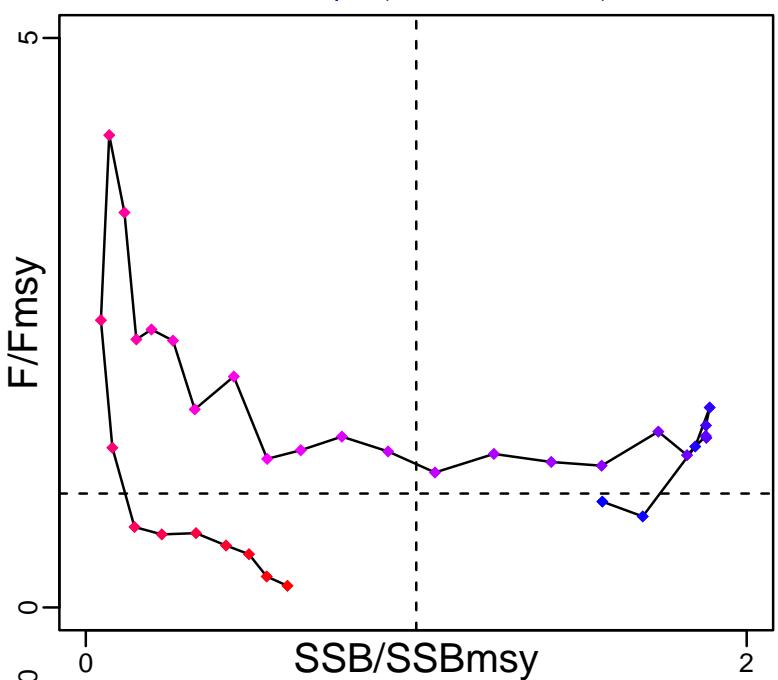
Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	SSBmsy-MT	2020	565,722
<b>Fmsy</b>	Fmsy-1/yr	2020	0.184
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2020	454,500
<b>Fmgt</b>	Fmgt-1/yr	2020	0.181
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	SSB0-MT	2015	1,515,000
<b>MSY</b>	MSY-MT	2020	96,296
<b>M</b>	M-1/yr	2020	0.15
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2015	303,000
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2020	435,368	-	1+	
<b>SSB</b>	SSB-MT	2020	345,247	Both	2+	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2020	273,046,667	-	1	
<b>F</b>	F-1/yr	2020	0.035	-	3-21+	
<b>ER</b>	ER-calc-ratio	2020	0.039	-	-	
<b>TC</b>	TC-MT	2020	15,050			
<b>TL</b>	-	-	-			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2020	0.61			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2020	0.19			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2020	0.76			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2020	0.193			
<b>ER/ERmgt</b>	-	-	-			

**Southern blue whiting Southern Argentina [SBWHITARGS]**

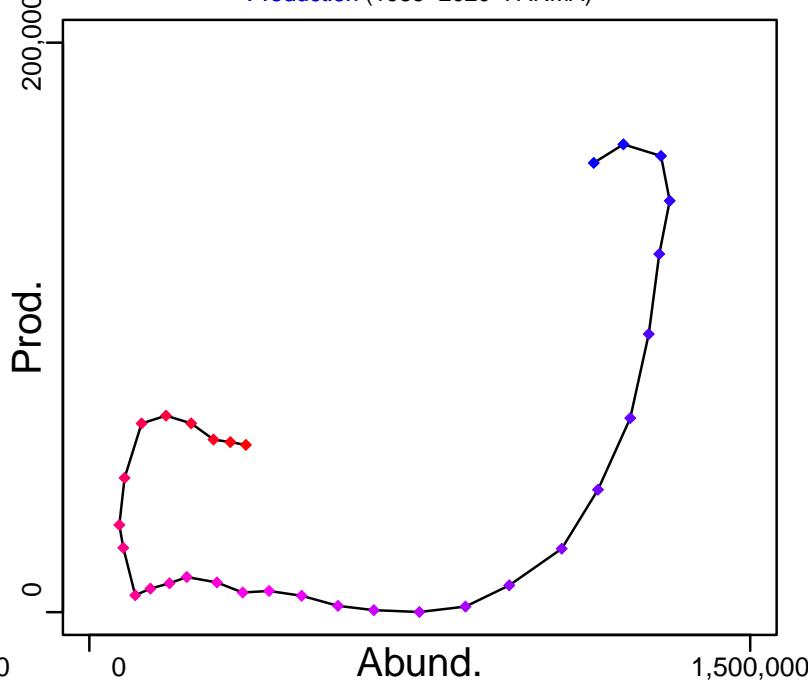
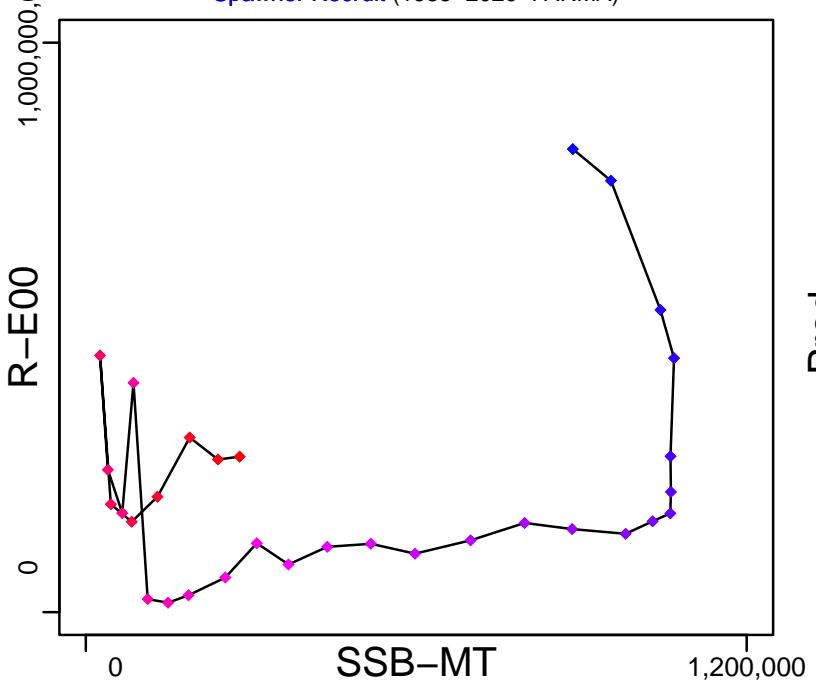
Kobe MSYpref (1985–2020–PARMA)

Kobe MGTPref (1985–2020–PARMA)



Spawner Recruit (1985–2020–PARMA)

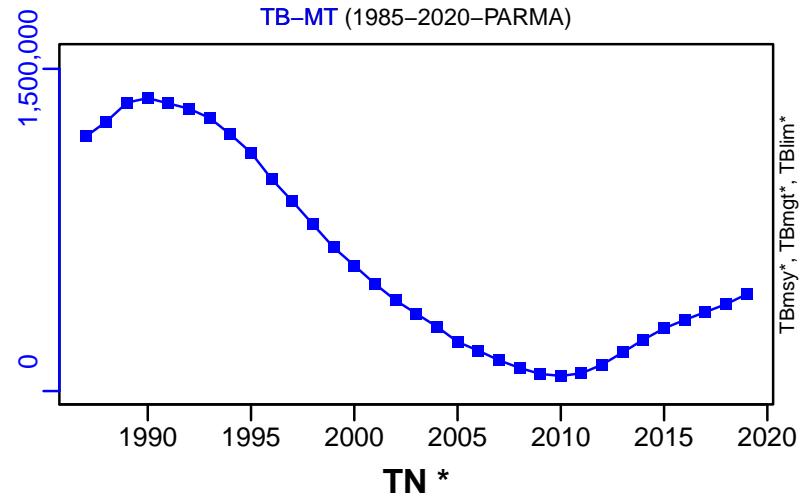
Production (1985–2020–PARMA)



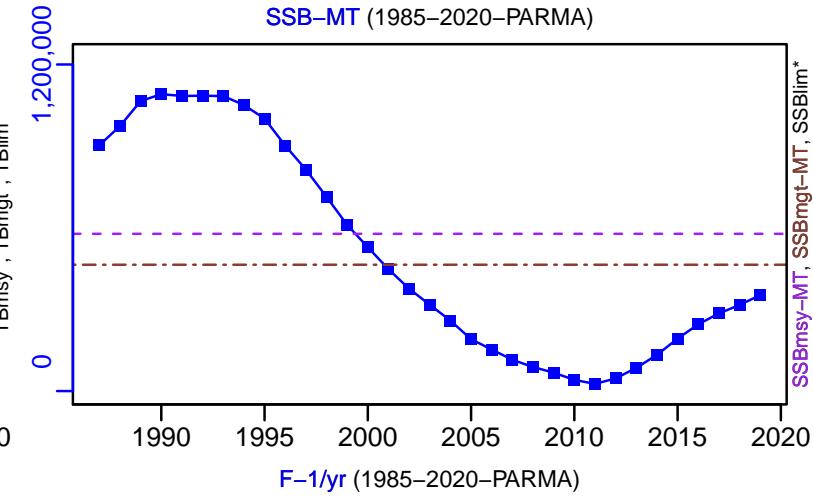
◆ Start Year   ◆ End Year   \* No Data

**Southern blue whiting Southern Argentina [SBWHITARGS]**

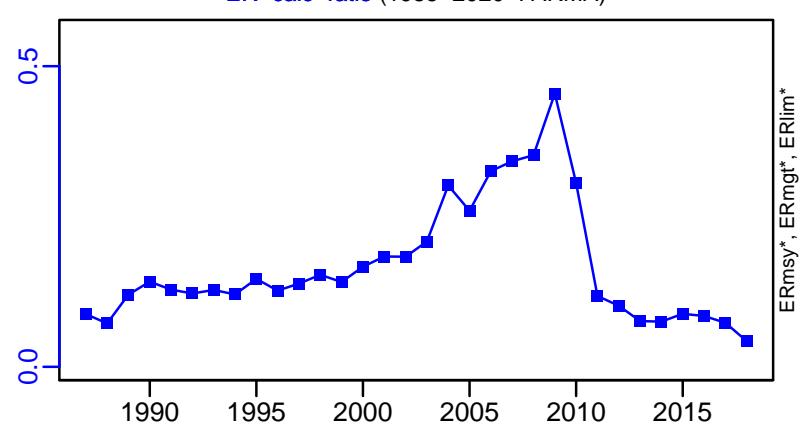
TB-MT (1985–2020-PARMA)



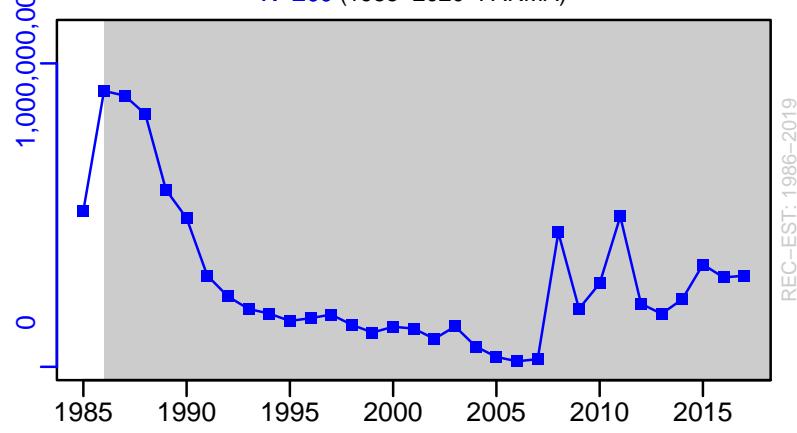
SSB-MT (1985–2020-PARMA)



ER-calc-ratio (1985–2020-PARMA)



R-E00 (1985–2020-PARMA)

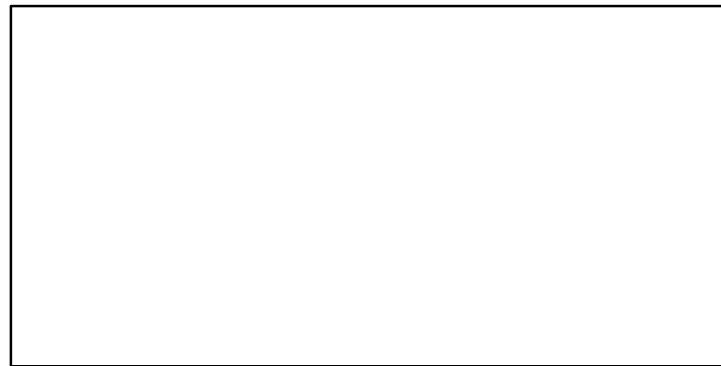
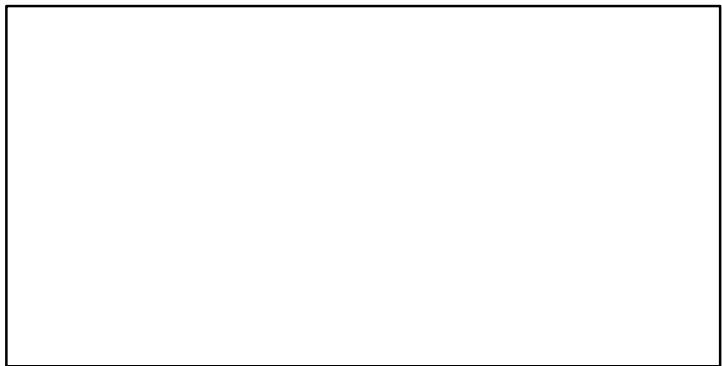
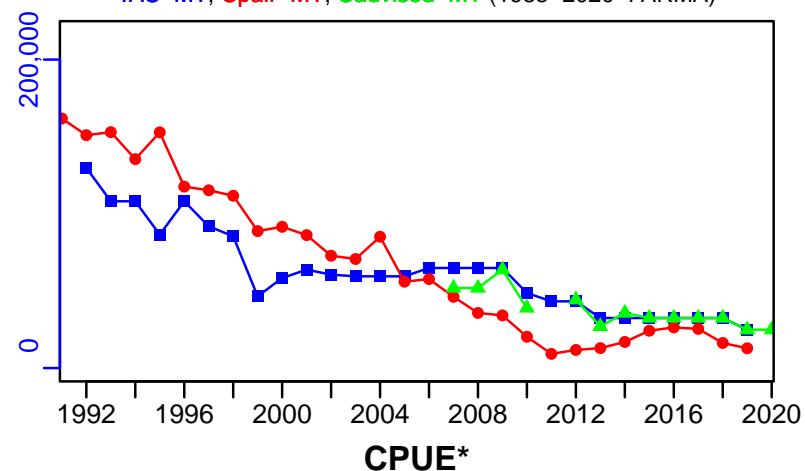
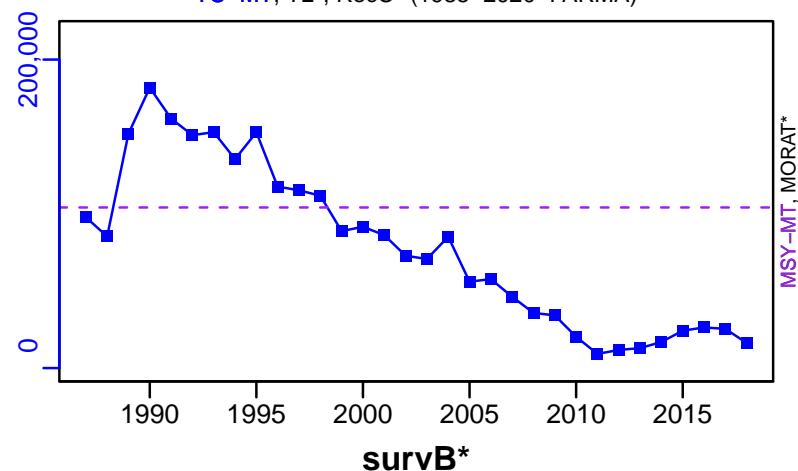


■ Listed time series	— Target BRP	— Rec-Est
— MSY-based BRP	--- Lim BRP	* No Data

### Southern blue whiting Southern Argentina [SBWHITARGS]

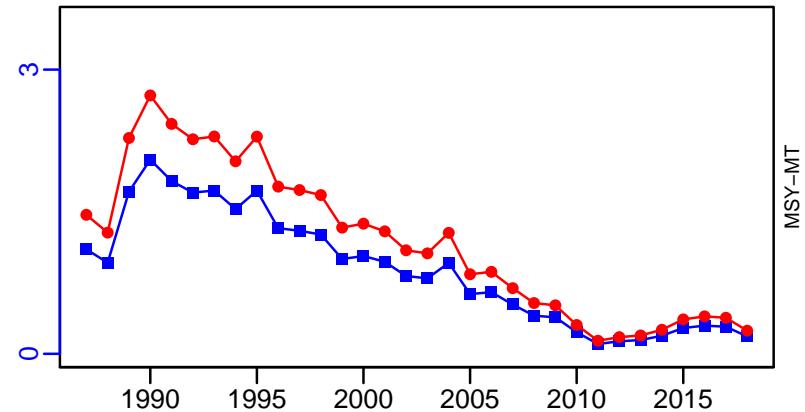
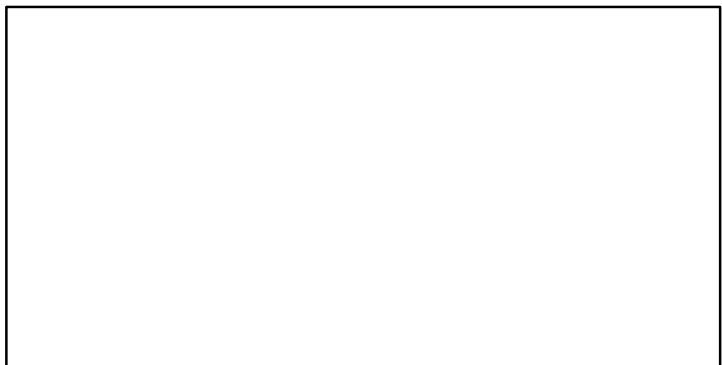
TC-MT, TL\*, RecC\* (1985–2020–PARMA)

TAC-MT, Cpair-MT, Cadvised-MT (1985–2020–PARMA)



EFFORT\*

TC-MT/MSY-MT, CdivMEANC-ratio, (1985–2020–PARMA)



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

## Southern blue whiting Central-Southern Chile [SBWHITCH]

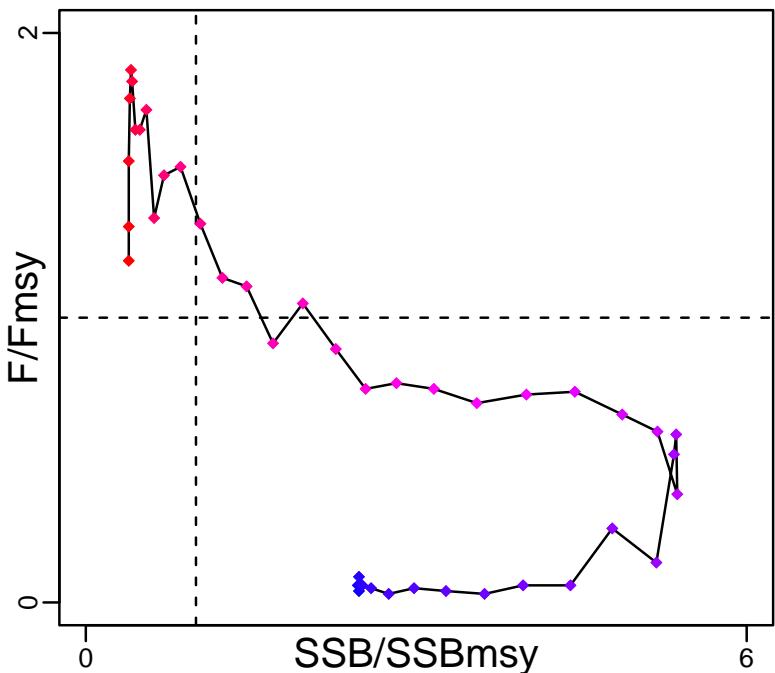
Metadata	
<b>Scientific Name</b>	Micromesistius australis
<b>Current Assess ID</b>	IFOPCH-SBWHITCH-1978-2020-Quiroz
<b>Area</b>	Central-Southern Chile
<b>Management Authority</b>	Subsecretaria de Pesca
<b>Assessor</b>	Instituto de Fomento Pesquero - Chilean Fisheries Development Institute
<b>Asmts in RAM</b>	2015, 2016, 2020, 2012

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	SSBmsy-pr-MT	2020	183,968
<b>Fmsy</b>	Fmsy-pr-1/yr	2020	0.194
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2020	183,968
<b>Fmgt</b>	Fmgt-1/yr	2015	0.2
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	SSB0-MT	2020	459,920
<b>MSY</b>	-	-	-
<b>M</b>	M-1/yr	2016	0.18
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

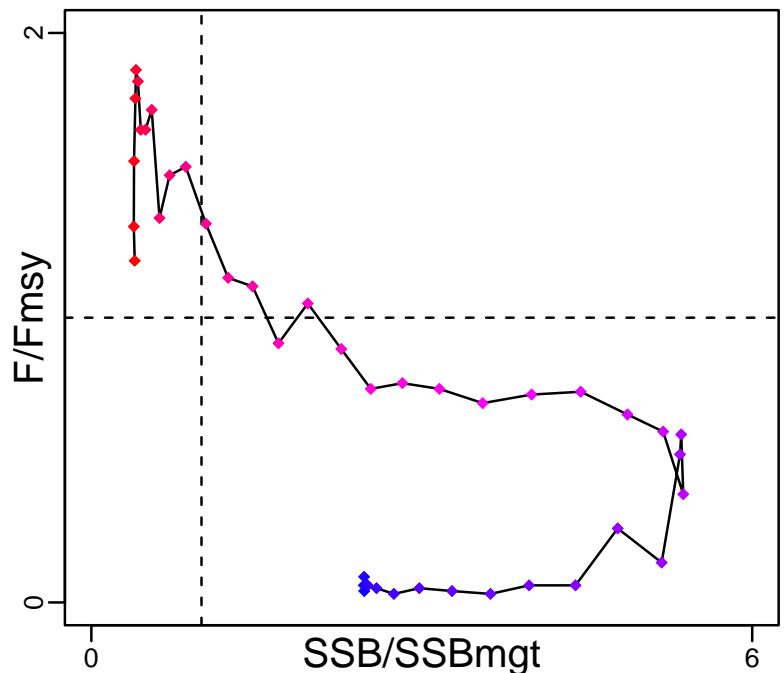
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2020	130,562	Both	-	
<b>SSB</b>	SSB-MT	2020	72,421	Both	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2020	121,775	Both	-	
<b>F</b>	F-1/yr	2020	0.23	Both	-	
<b>ER</b>	ER-calc-ratio	2020	0.02	-	-	
<b>TC</b>	TC-MT	2020	2634			
<b>TL</b>	TL-MT	2015	16,600			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	SSBdivSSBmsy-dimensionless	2020	0.39			
<b>F/Fmsy</b>	FdivFmsy-dimensionless	2020	1.2			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2020	0.394			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2015	1.02			
<b>ER/ERmgt</b>	-	-	-			

**Southern blue whiting Central–Southern Chile [SBWHITCH]**

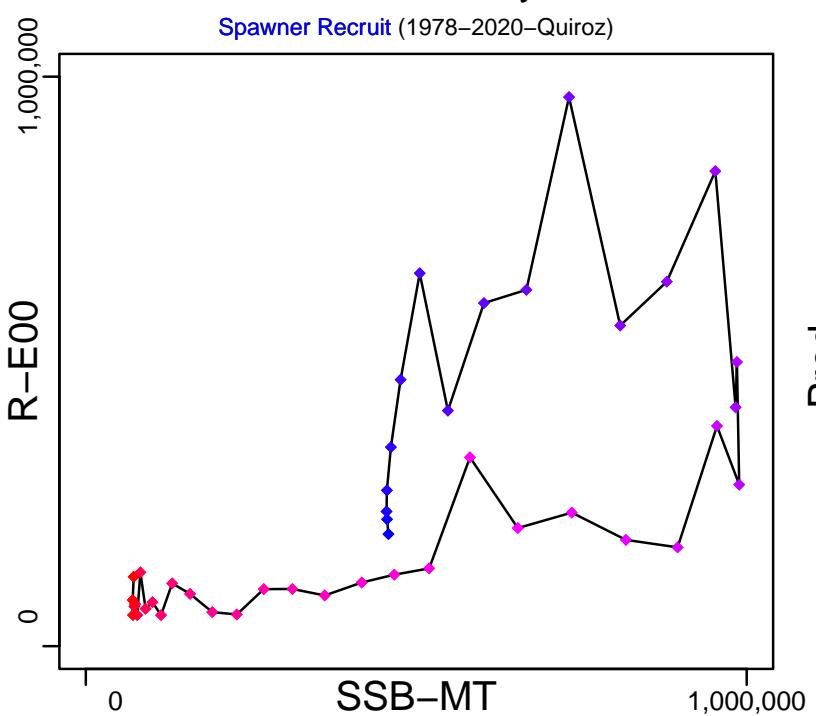
Kobe MSYpref (1978–2020–Quiroz)



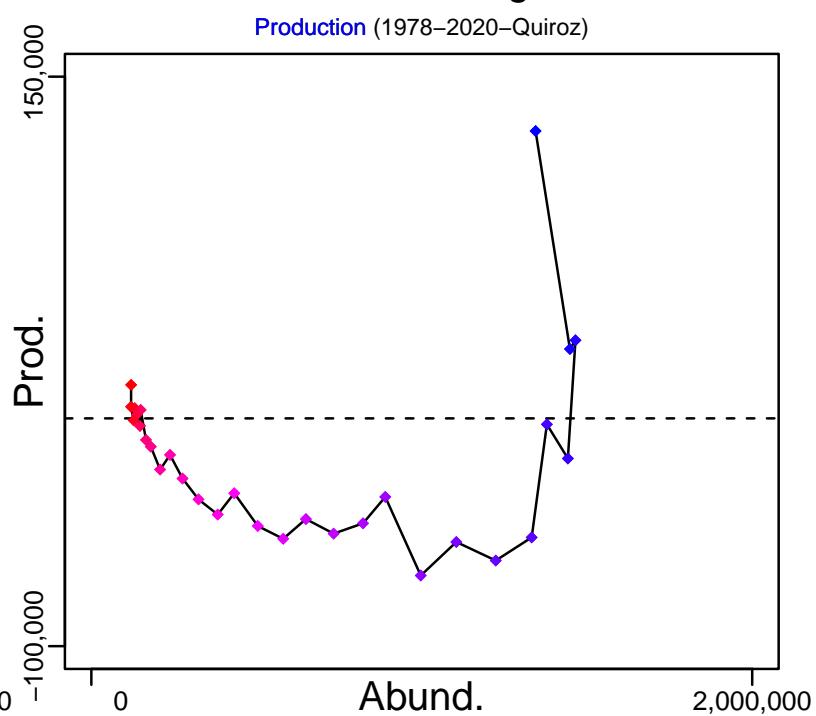
Kobe MGTPref (1978–2020–Quiroz)



Spawner Recruit (1978–2020–Quiroz)



Production (1978–2020–Quiroz)

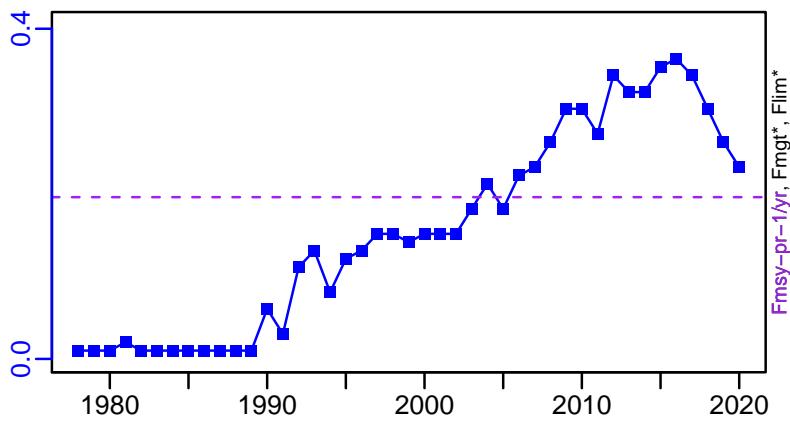
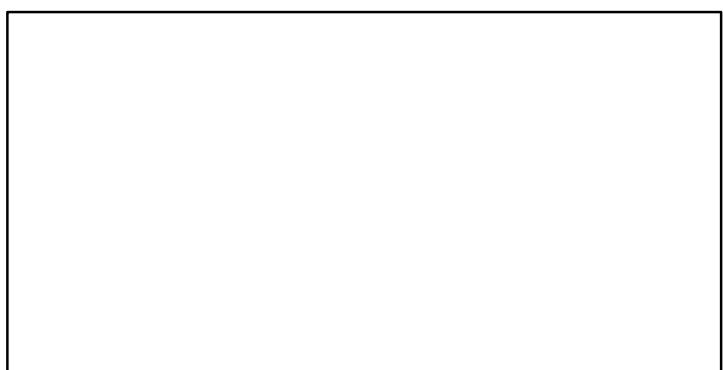
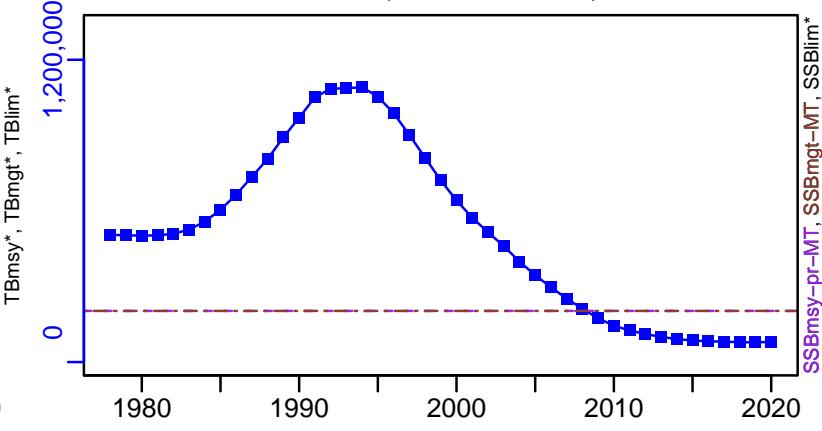
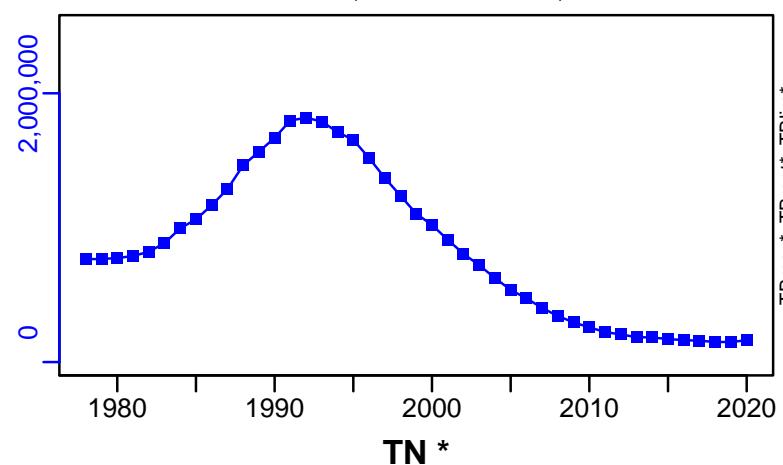


◆ Start Year  
 ◆ End Year  
 \* No Data

Southern blue whiting Central–Southern Chile [SBWHITCH]

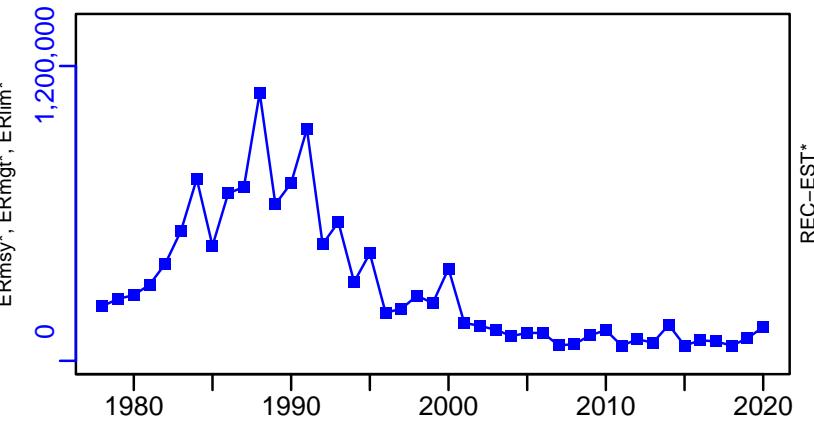
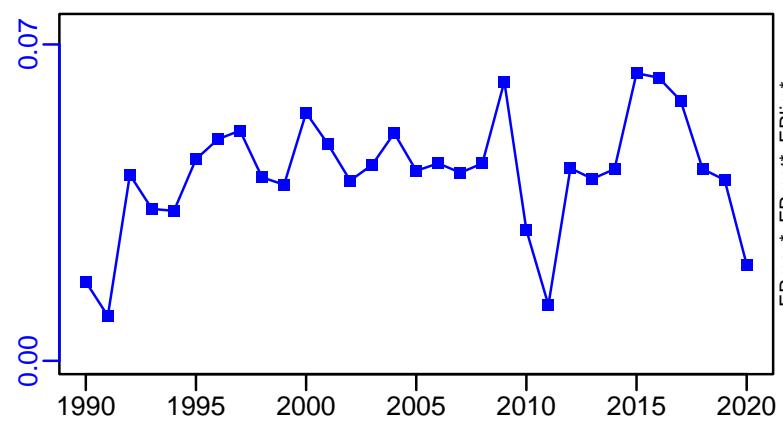
TB-MT (1978–2020–Quiroz)

SSB-MT (1978–2020–Quiroz)



ER-calc-ratio (1978–2020–Quiroz)

R-E00 (1978–2020–Quiroz)

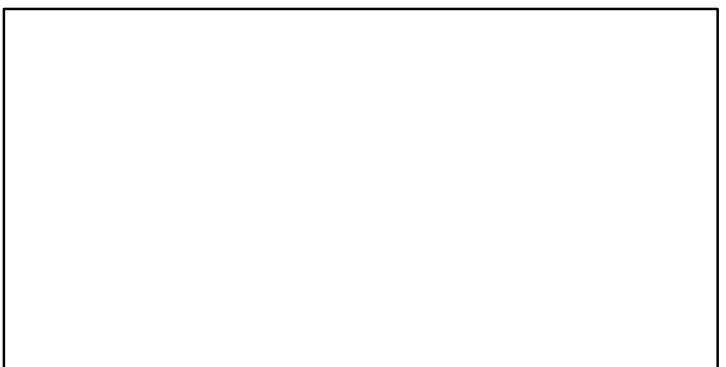
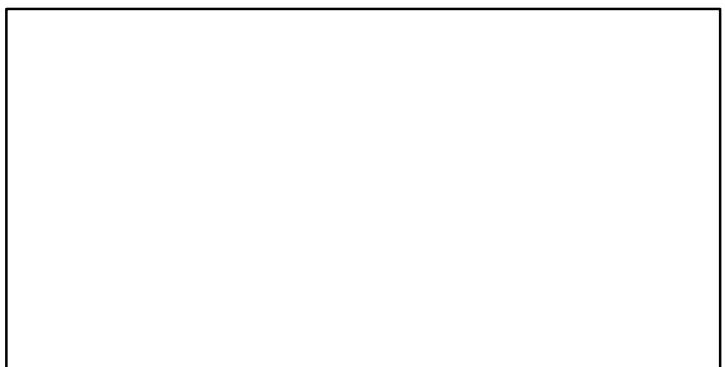
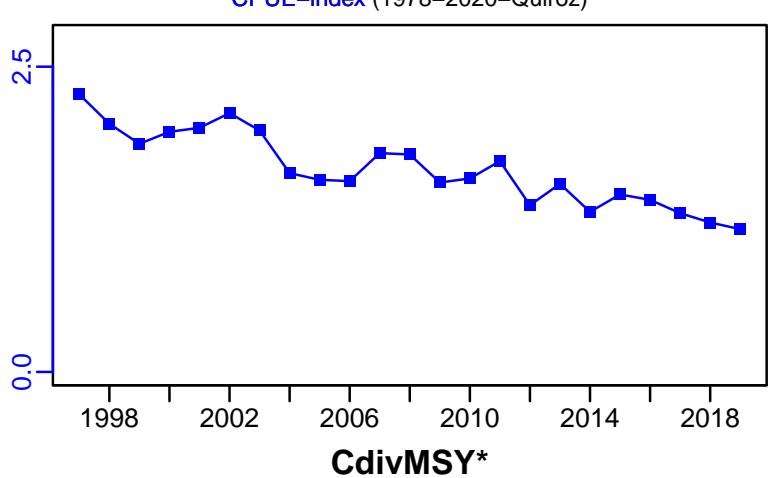
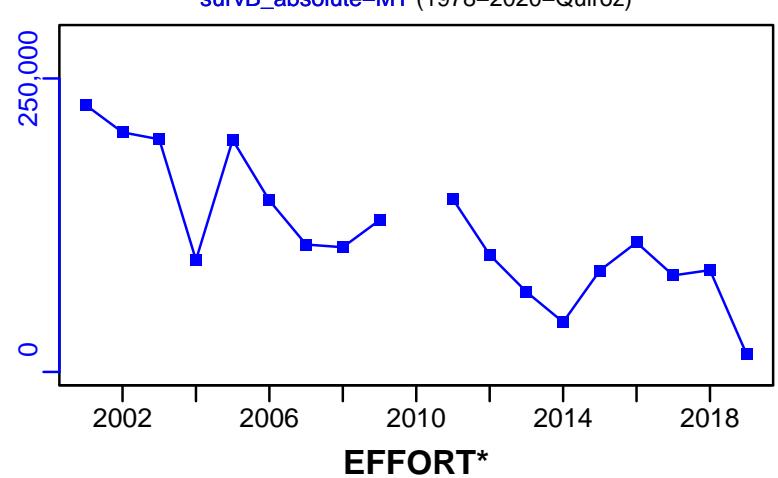
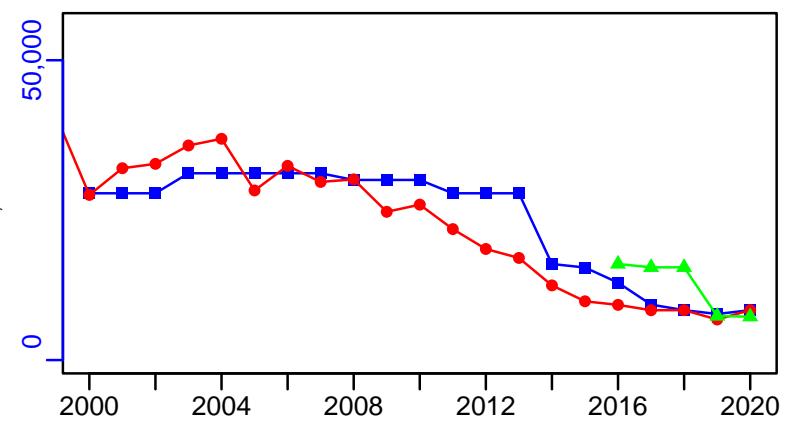
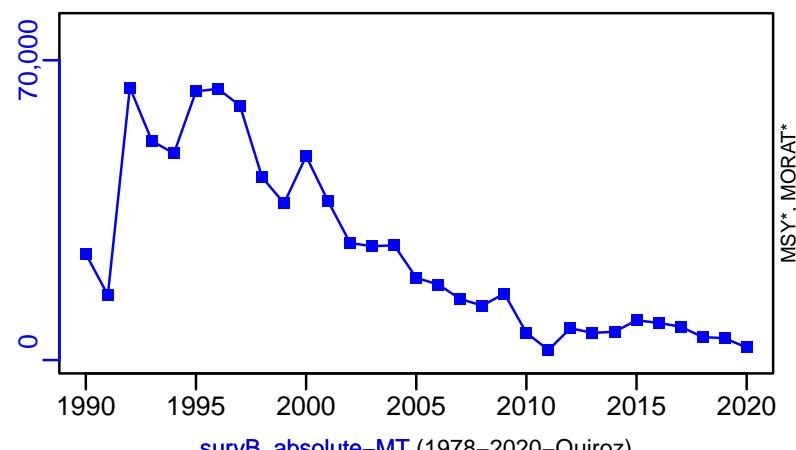


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	--- Lim BRP	* No Data

**Southern blue whiting Central–Southern Chile [SBWHITCH]**

TC-MT, TL\*, RecC\* (1978–2020–Quiroz)

TAC-MT, Cpair-MT, Cadvised-MT (1978–2020–Quiroz)



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

## Silver hake Scotian Shelf and Bay of Fundy [SHAKE4VWX]

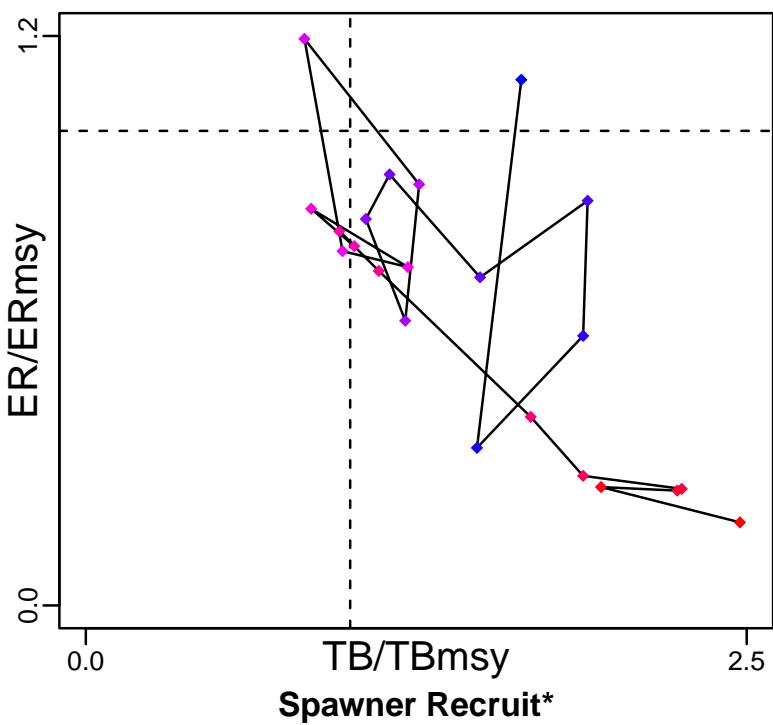
Metadata	
<b>Scientific Name</b>	Merluccius bilinearis
<b>Current Assess ID</b>	DFO-MAR-SHAK4VWX-1969-2015-OSGOOD
<b>Area</b>	Scotian Shelf and Bay of Fundy
<b>Management Authority</b>	Department of Fisheries and Oceans, Canada national management
<b>Assessor</b>	Department of Fisheries and Oceans - Maritimes Region
<b>Asmts in RAM</b>	2015

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	TBmsy-MT	2015	59,000
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2015	0.32
<b>ERmsy</b>	ERmsy-calc-ratio	2015	0.271
<b>TBmgt</b>	TBmgt-MT	2015	47,200
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-MT	2015	16,000
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

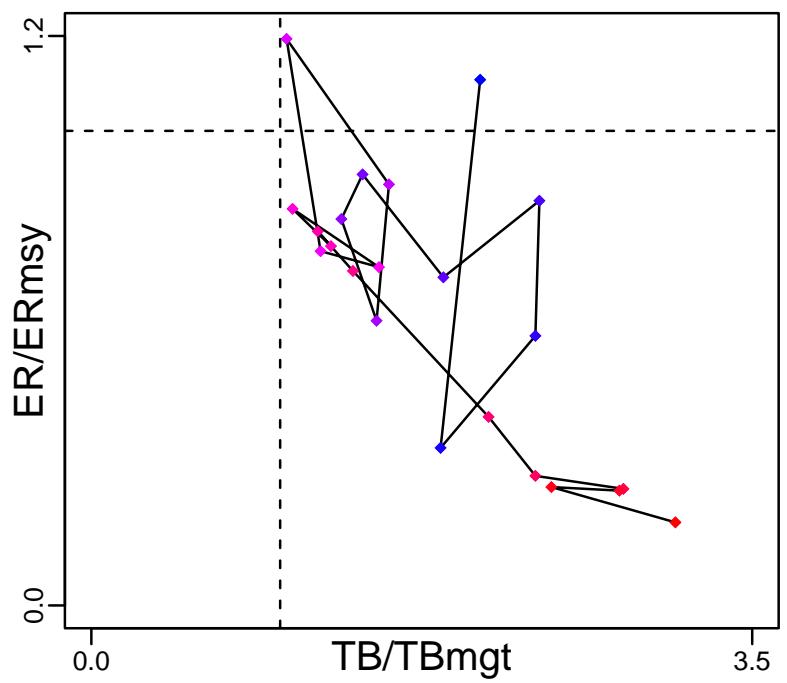
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2015	122,000	Both	0+	
<b>SSB</b>	-	-	-	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2015	$2.56 \times 10^8$	Both	-	
<b>F</b>	F-1/yr	2015	0.048	-	-	
<b>ER</b>	ER-calc-ratio	2015	0.047	-	-	
<b>TC</b>	-	-	-			
<b>TL</b>	TL-MT	2015	6930			
<b>TB/TBmsy</b>	TB-MT/TBmsy-MT	2015	2.068			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2015	0.149			
<b>ER/ERmsy</b>	ER-calc-ratio/ERmsy-calc-ratio	2015	0.175			
<b>TB/TBmgt</b>	TB-MT/TBmgt-MT	2015	2.585			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

Silver hake Scotian Shelf and Bay of Fundy [SHAKE4VWX]

Kobe MSYpref (1969–2015–OSGOOD)

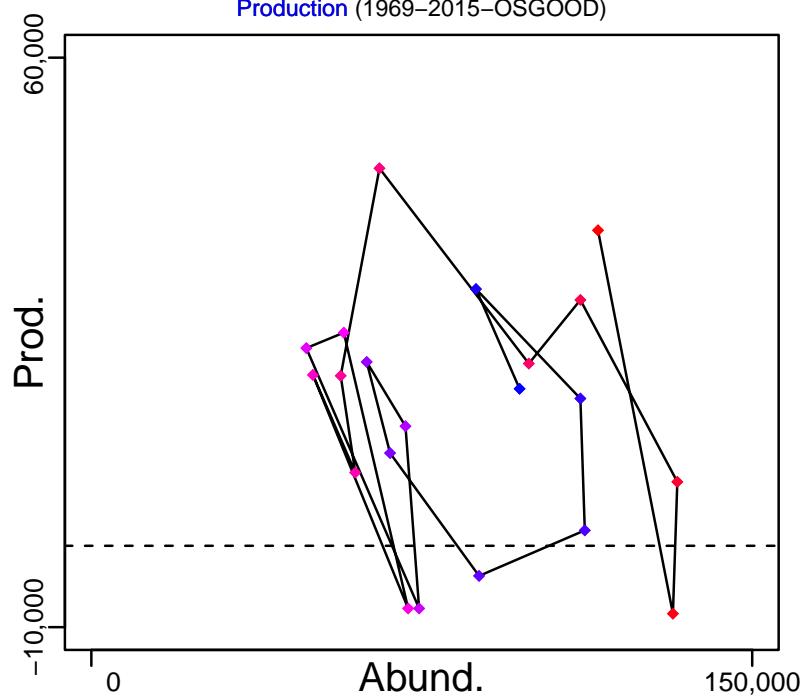
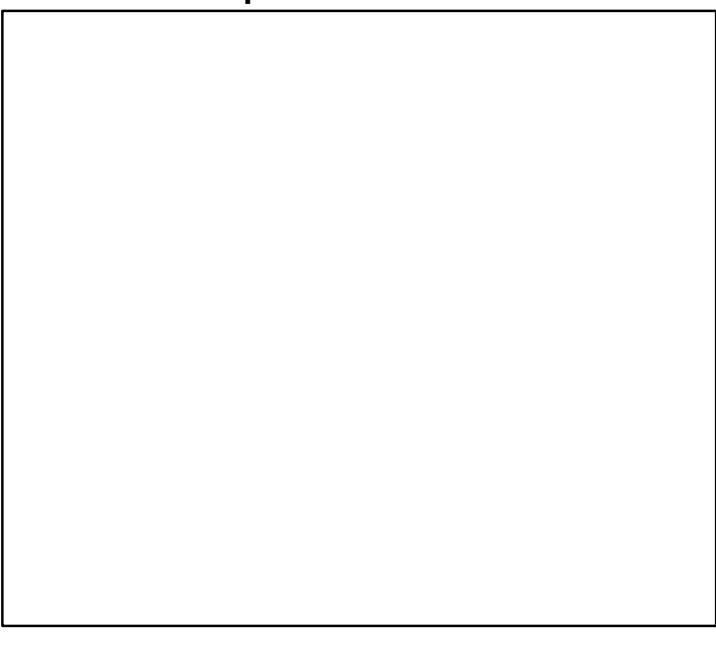


Kobe MGTPref (1969–2015–OSGOOD)



Spawner Recruit\*

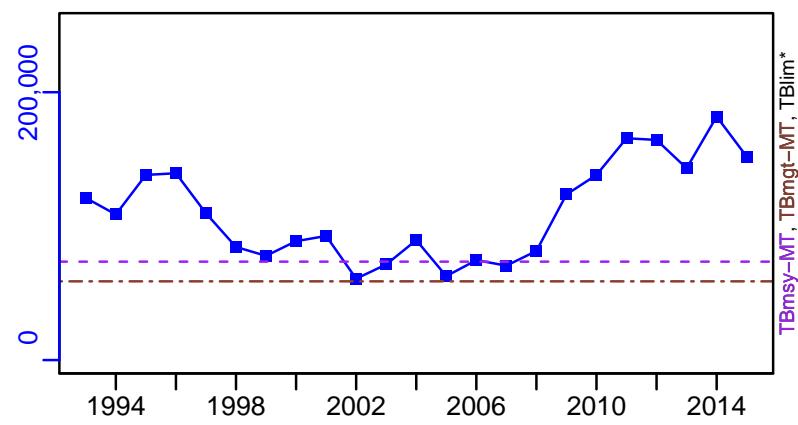
Production (1969–2015–OSGOOD)



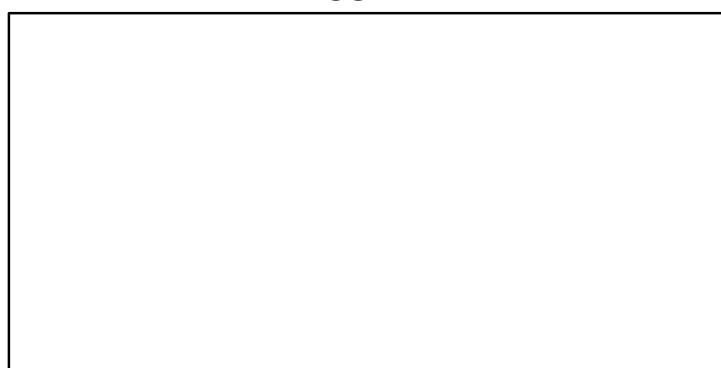
◆ Start Year   ◆ End Year   \* No Data

Silver hake Scotian Shelf and Bay of Fundy [SHAKE4VWX]

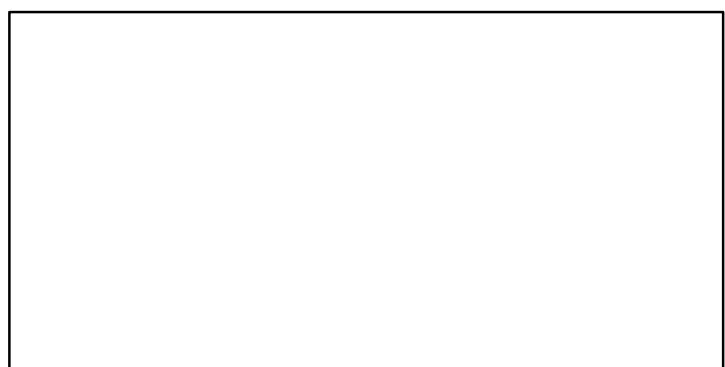
TB-MT (1969–2015–OSGOOD)



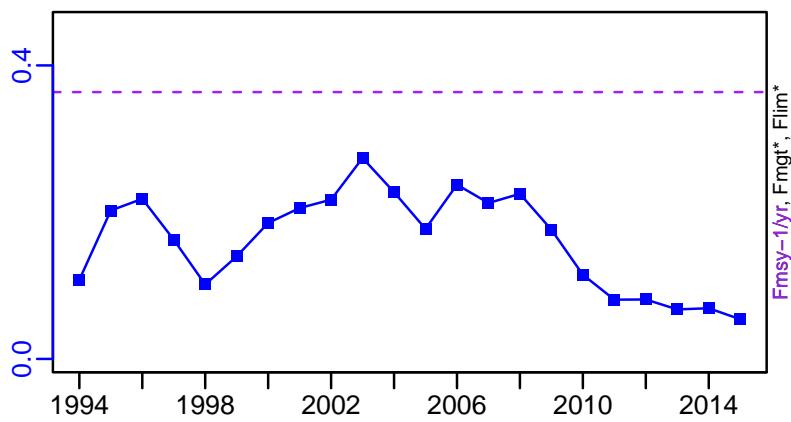
SSB\*



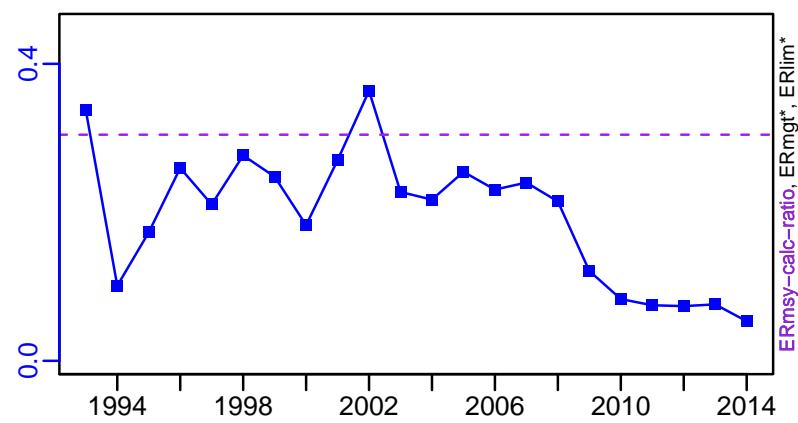
TN \*



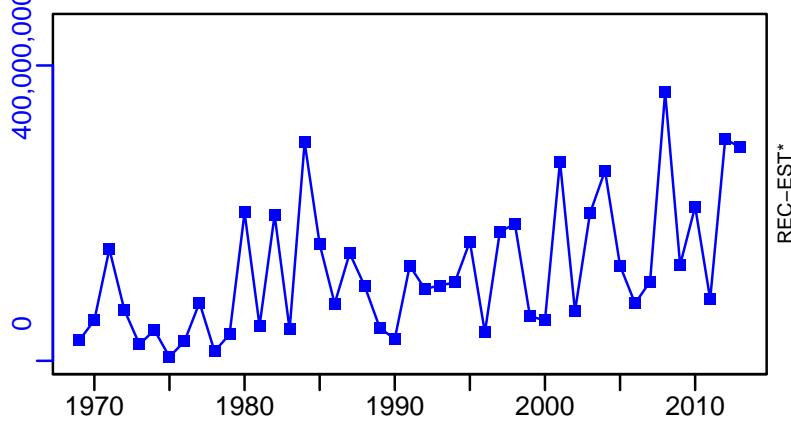
F-1/yr (1969–2015–OSGOOD)



ER-calc-ratio (1969–2015–OSGOOD)



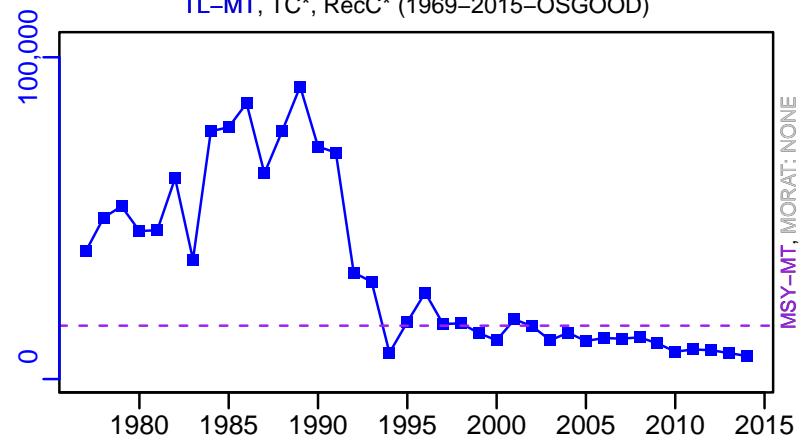
R-E00 (1969–2015–OSGOOD)



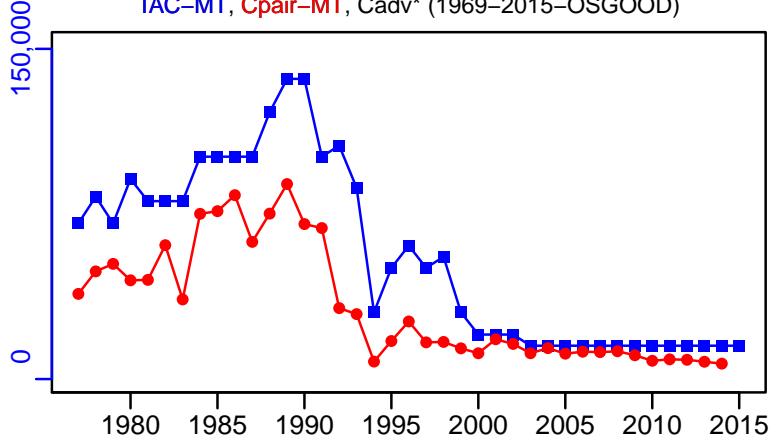
■ Listed time series	— Target BRP	— Rec-Est
— MSY-based BRP	··· Lim BRP	* No Data

### Silver hake Scotian Shelf and Bay of Fundy [SHAKE4VWX]

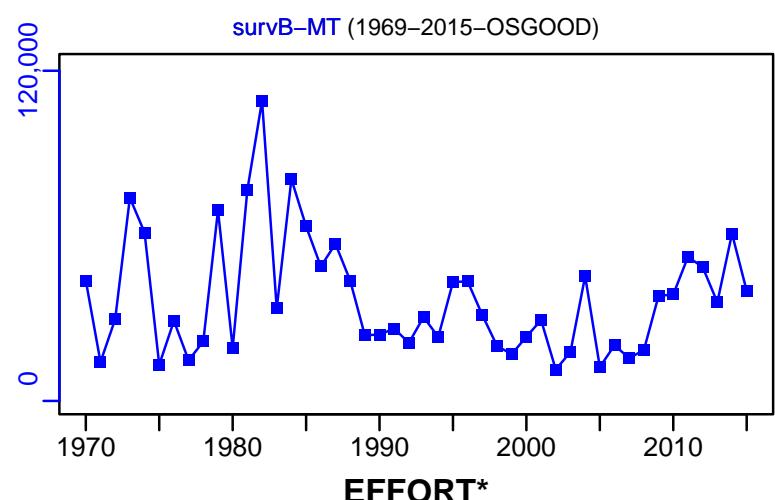
TL-MT, TC\*, RecC\* (1969–2015–OSGOOD)



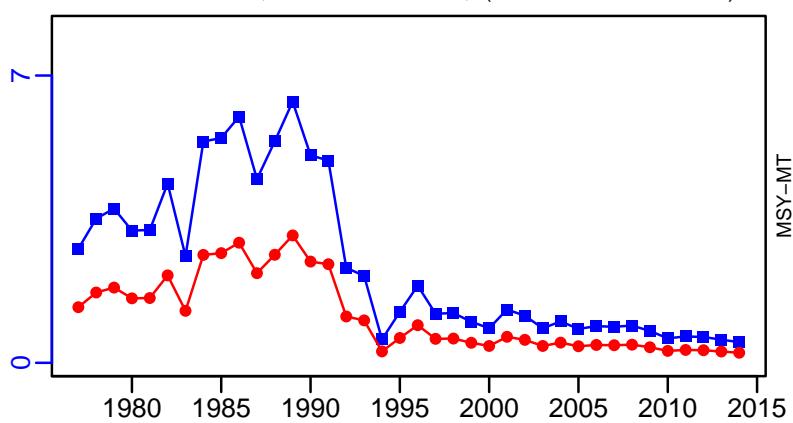
TAC-MT, Cpair-MT, Cadv\* (1969–2015–OSGOOD)



survB-MT (1969–2015–OSGOOD)



TL-MT/MSY-MT, CdivMEANC-ratio, (1969–2015–OSGOOD)



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

## Silver hake Gulf of Maine / Georges Bank [SHAKEGOMNGB]

Metadata	
<b>Scientific Name</b>	Merluccius bilinearis
<b>Current Assess ID</b>	NEFSC-SHAKEGOMNGB-1973-2019-SISIMP2021-2
<b>Area</b>	Gulf of Maine / Georges Bank
<b>Management Authority</b>	National Marine Fisheries Service, US national management
<b>Assessor</b>	Northeast Fisheries Science Center
<b>Asmts in RAM</b>	2009, 2013, 2016, 2019

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	TBmsy-calc-MT	2019	3213
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-ratio	2019	2.77
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-MT	2019	8900
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	ERlim-ratio	2019	2.77

Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	-	-	-	-	-	
<b>SSB</b>	-	-	-	-	-	
<b>TN</b>	TN-E00	2009	14,300,000	-	-	
<b>R</b>	-	-	-	-	-	
<b>F</b>	-	-	-	-	-	
<b>ER</b>	ER-ratio	2019	0.15	-	-	
<b>TC</b>	TC-MT	2019	1300			
<b>TL</b>	TL-MT	2009	972			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	-	-	-			
<b>ER/ERmsy</b>	ER-ratio/ERmsy-ratio	2019	0.054			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

**Kobe MSY\***

**Kobe MGT\***

**Spawner Recruit\***

**Production\***

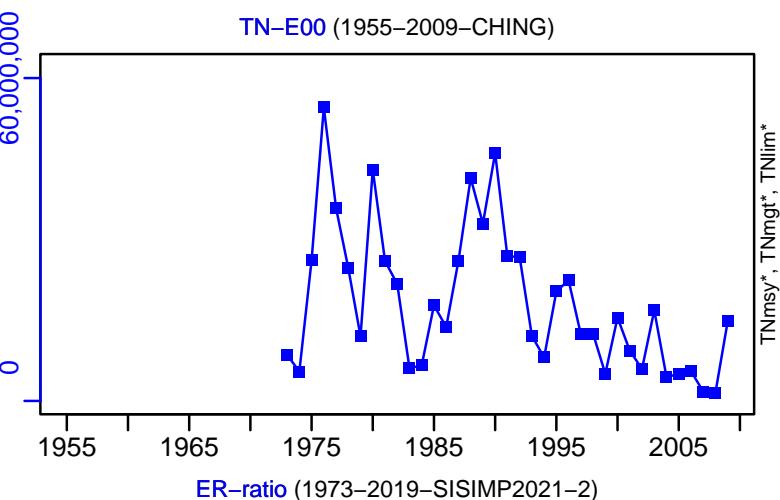
◆ Start Year   ◆ End Year   \* No Data

Silver hake Gulf of Maine / Georges Bank [SHAKEGOMNGB]

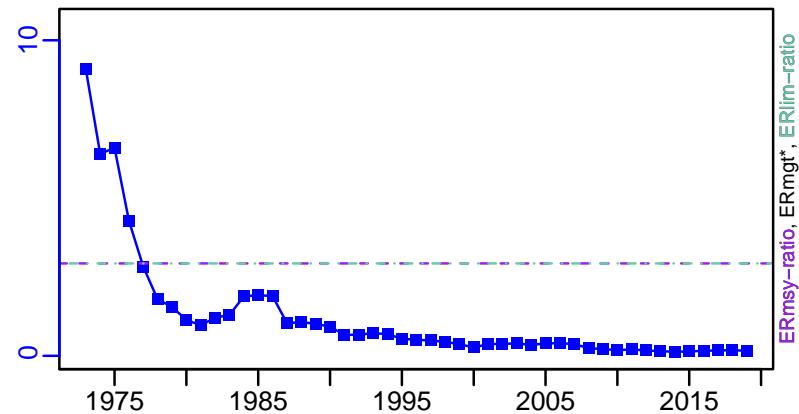
**TB\***

**SSB\***

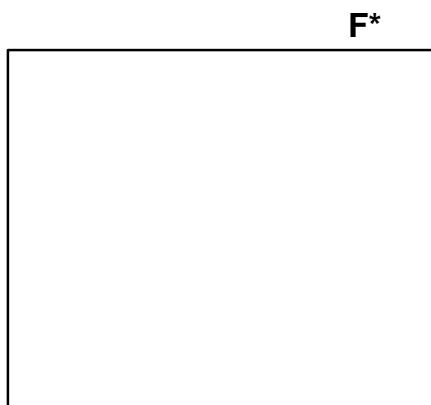
**TN-E00 (1955–2009–CHING)**



**ER-ratio (1973–2019–SISIMP2021–2)**



**F\***



**Recruits\***

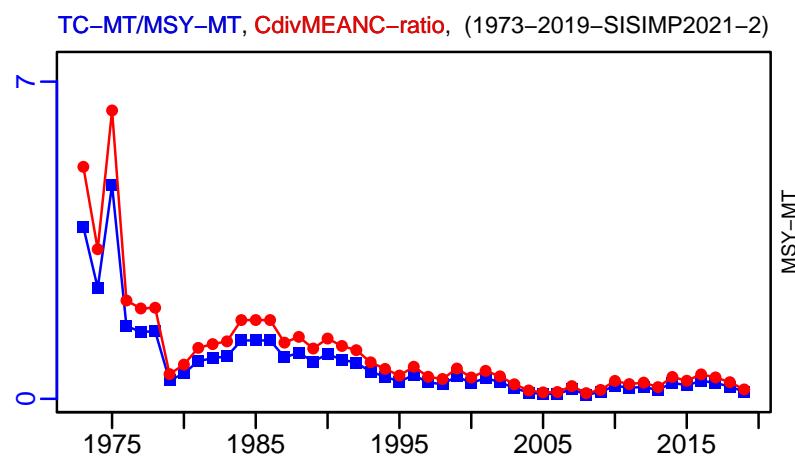
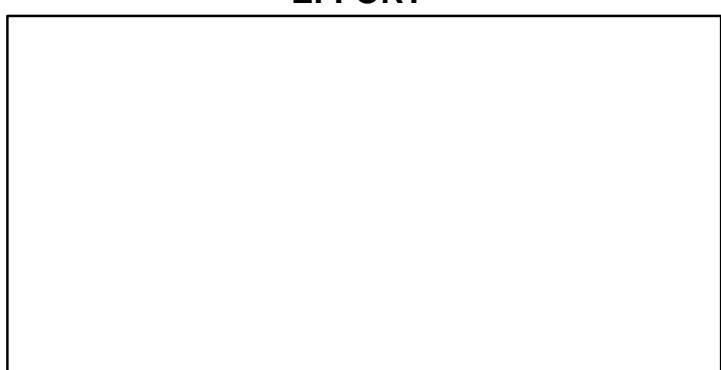
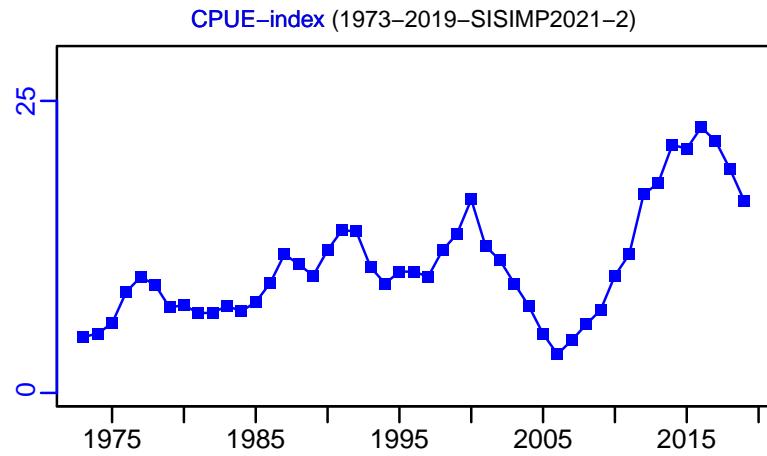
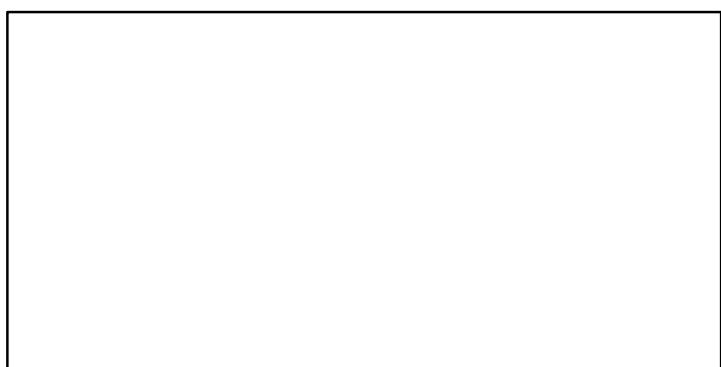
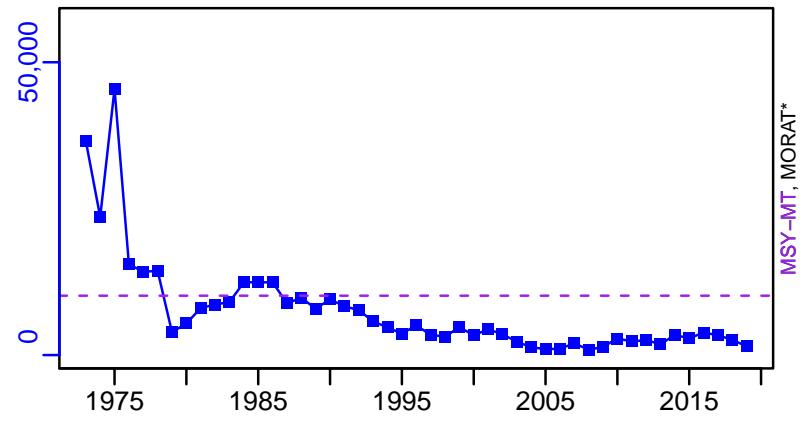


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| — MSY-based BRP      | ··· Lim BRP  | * No Data |

Silver hake Gulf of Maine / Georges Bank [SHAKEGOMNGB]

TC-MT, TL\*, RecC\* (1973–2019–SISIMP2021–2)

TAC\*, Cpair\*, Cadv\*



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

## Silver hake Southern Georges Bank / Mid-Atlantic [SHAKESGBMATL]

Metadata	
<b>Scientific Name</b>	Merluccius bilinearis
<b>Current Assess ID</b>	NEFSC-SHAKESGBMATL-1973-2019-SISIMP2021-2
<b>Area</b>	Southern Georges Bank / Mid-Atlantic
<b>Management Authority</b>	National Marine Fisheries Service, US national management
<b>Assessor</b>	Northeast Fisheries Science Center
<b>Asmts in RAM</b>	2009, 2013, 2016, 2019

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	TBmsy-calc-MT	2019	825
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-ratio	2019	34.2
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-MT	2019	28,200
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	ERlim-ratio	2019	34.2

Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	-	-	-	-	-	
<b>SSB</b>	-	-	-	-	-	
<b>TN</b>	TN-E00	2009	1,690,000	-	-	
<b>R</b>	-	-	-	-	-	
<b>F</b>	-	-	-	-	-	
<b>ER</b>	ER-ratio	2019	1.91	-	-	
<b>TC</b>	TC-MT	2019	5400			
<b>TL</b>	TL-MT	2009	6640			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	-	-	-			
<b>ER/ERmsy</b>	ER-ratio/ERmsy-ratio	2019	0.056			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

**Kobe MSY\***

**Kobe MGT\***

**Spawner Recruit\***

**Production\***

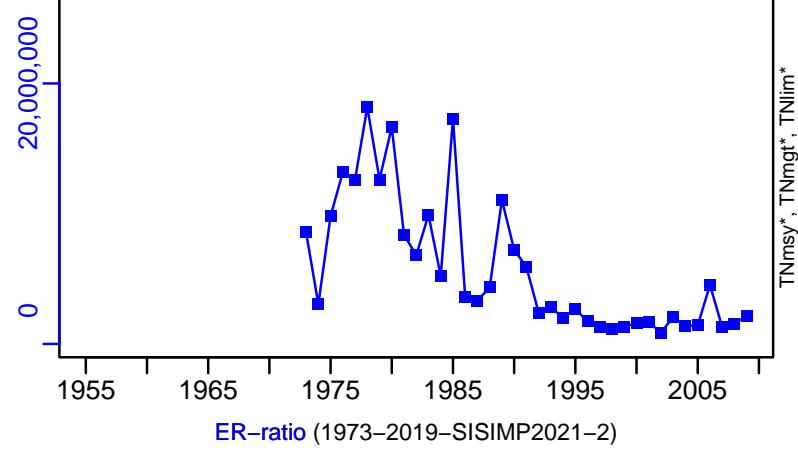
♦ Start Year ♦ End Year \* No Data

Silver hake Southern Georges Bank / Mid-Atlantic [SHAKESGBMATL]

**TB\***

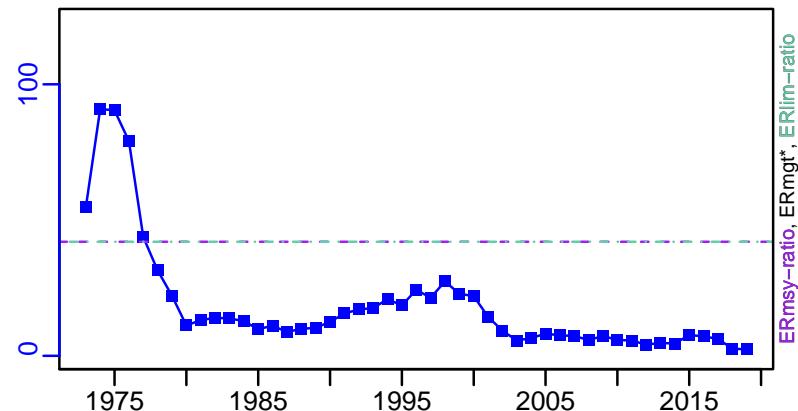
**SSB\***

**TN-E00 (1955–2009–CHING)**



**F\***

**Recruits\***

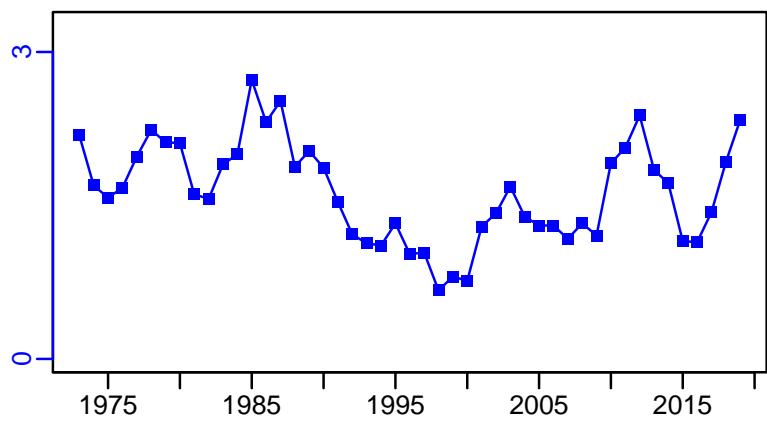
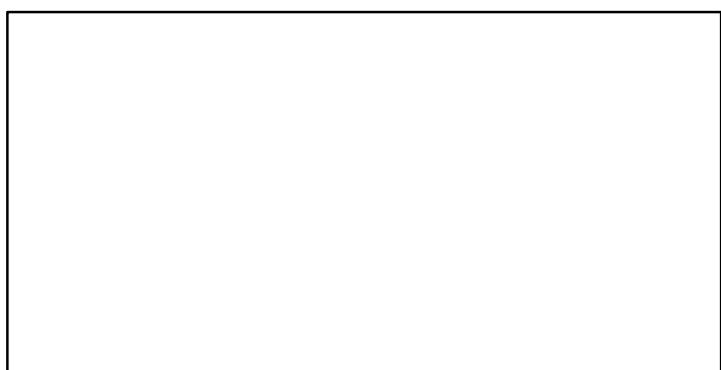
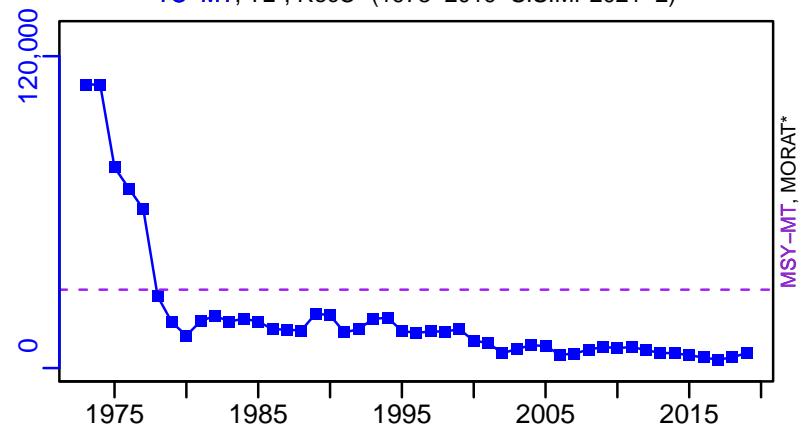


- Listed time series
- Target BRP
- MSY-based BRP
- Lim BRP
- Rec-Est
- \* No Data

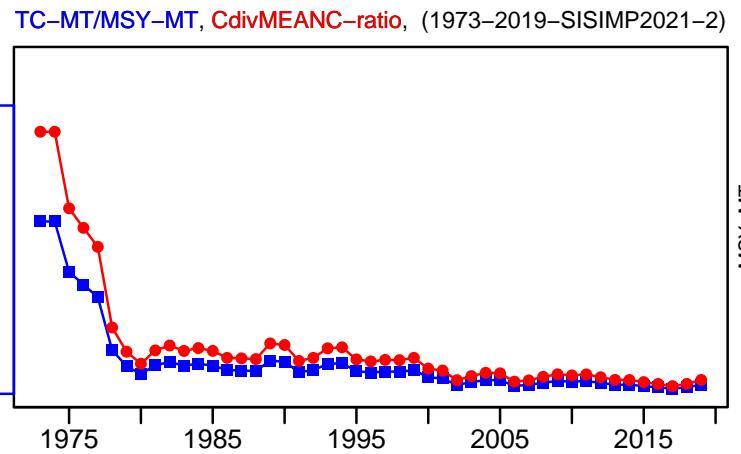
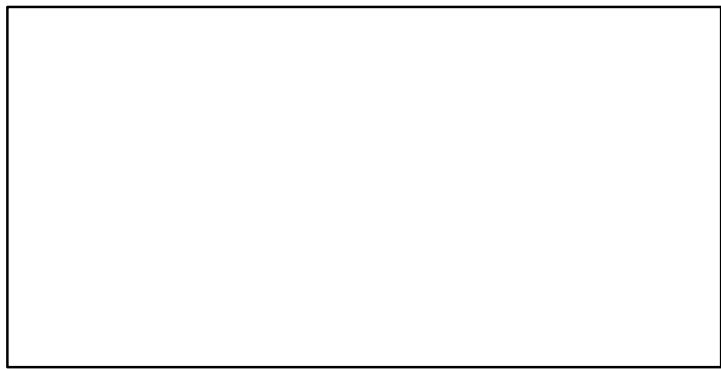
Silver hake Southern Georges Bank / Mid-Atlantic [SHAKESGBMATL]

TC-MT, TL\*, RecC\* (1973–2019–SISIMP2021–2)

TAC\*, Cpair\*, Cadv\*



**EFFORT\***



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

## Southern hake Central-Southern Chile [SOUTHHAKECH]

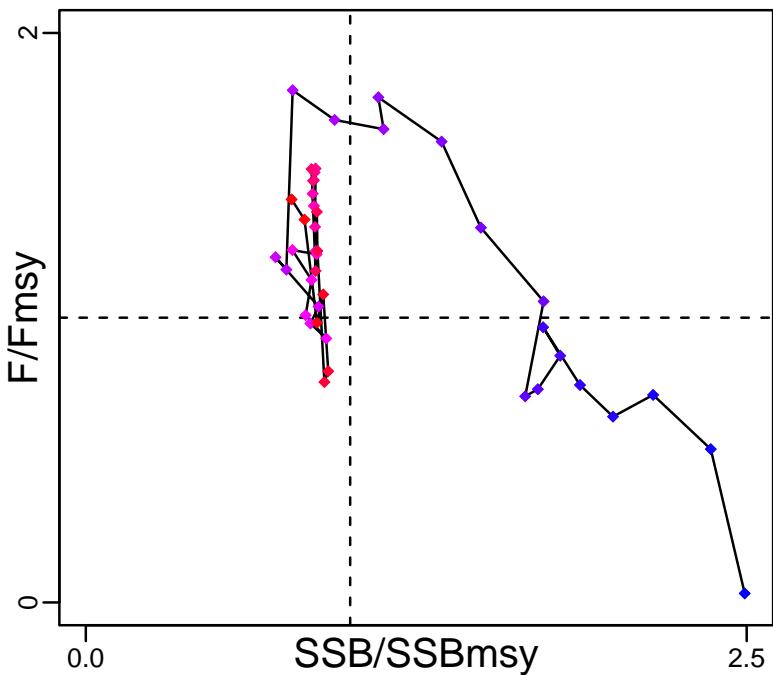
Metadata	
<b>Scientific Name</b>	Merluccius australis
<b>Current Assess ID</b>	IFOPCH-SOUTHHAKECH-1977-2019-Quiroz
<b>Area</b>	Central-Southern Chile
<b>Management Authority</b>	Subsecretaria de Pesca
<b>Assessor</b>	Instituto de Fomento Pesquero - Chilean Fisheries Development Institute
<b>Asmts in RAM</b>	2011, 2015, 2019

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	SSBmsy-pr-MT	2019	184,844
<b>Fmsy</b>	Fmsy-pr-1/yr	2019	0.257
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2015	172,400
<b>Fmgt</b>	Fmgt-1/yr	2015	0.313
<b>ERmgt</b>	-	-	-
<b>TB0</b>	TB0-MT	2015	940,000
<b>SSB0</b>	SSB0-MT	2019	462,111
<b>MSY</b>	-	-	-
<b>M</b>	M-1/yr	2015	0.21
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

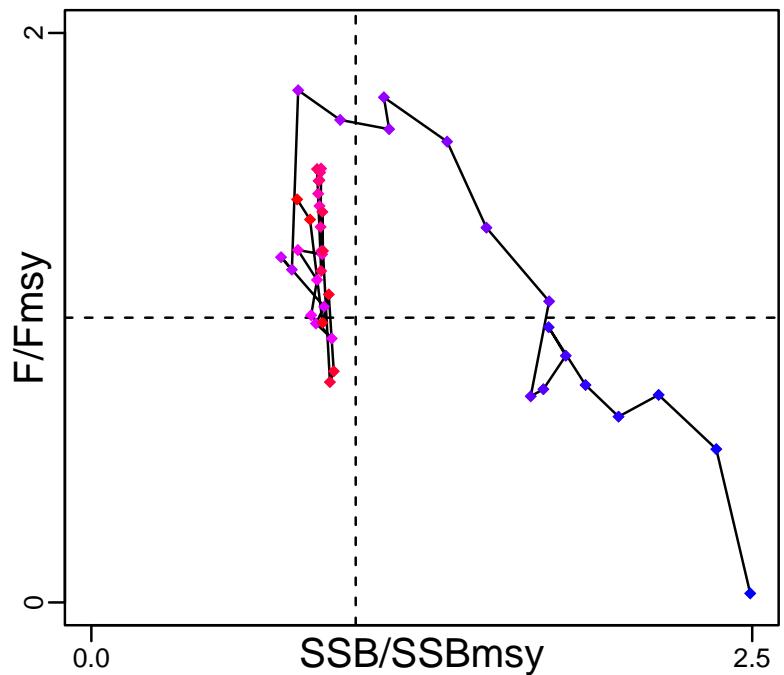
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2019	548,813	-	-	
<b>SSB</b>	SSB-MT	2019	143,892	Both	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2019	115,428,000	Both	-	
<b>F</b>	F-1/yr	2019	0.364	Both	-	
<b>ER</b>	ER-ratio	2019	1.415	-	-	
<b>TC</b>	TC-MT	2019	28,214			
<b>TL</b>	TL-MT	2015	16,200			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	SSBdivSSBmsy-dimensionless	2019	0.778			
<b>F/Fmsy</b>	FdivFmsy-dimensionless	2019	1.415			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2015	0.539			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2015	1.086			
<b>ER/ERmgt</b>	-	-	-			

Southern hake Central–Southern Chile [SOUTHHAKECH]

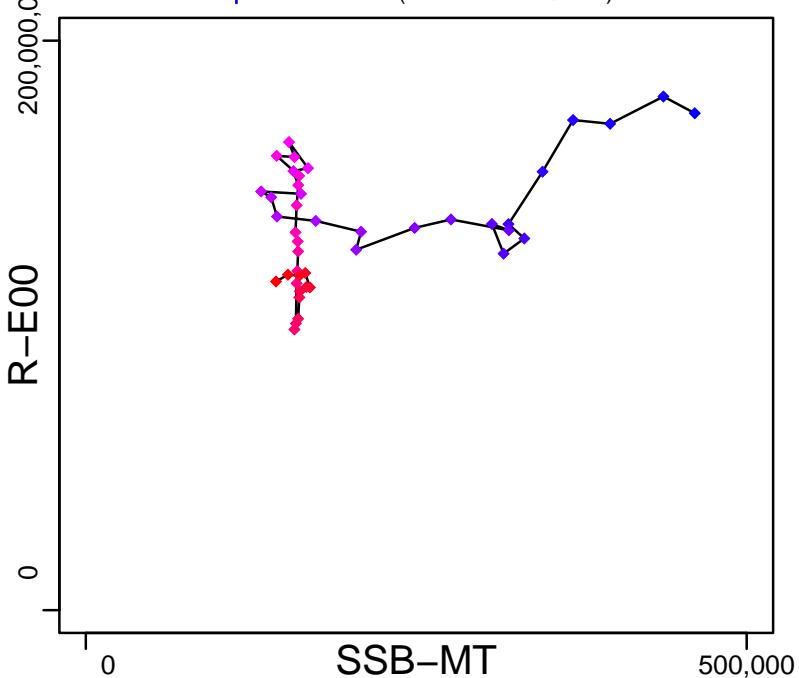
Kobe MSYpref (1977–2019–Quiroz)



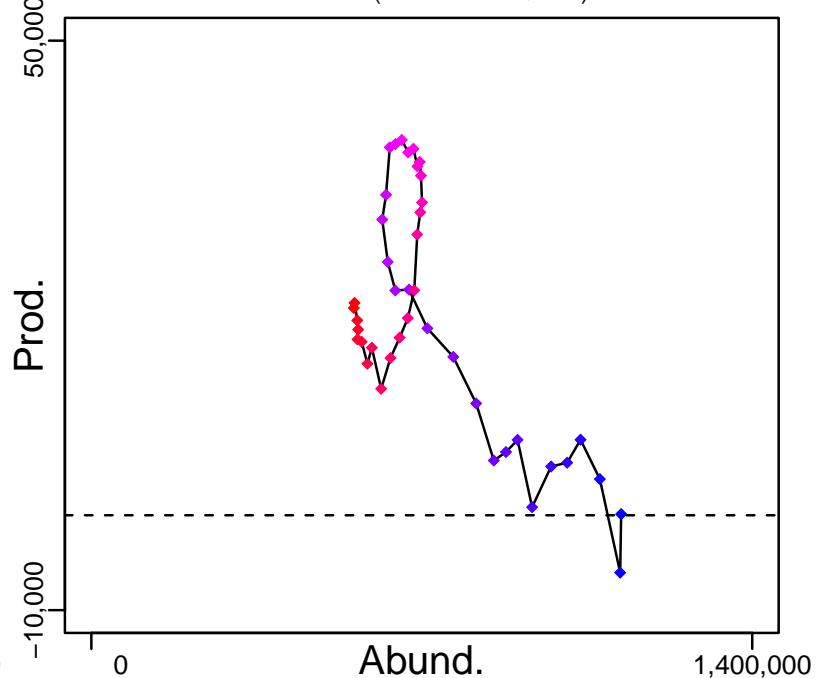
Kobe MGTPref (1977–2019–Quiroz)



Spawner Recruit (1977–2019–Quiroz)



Production (1977–2019–Quiroz)

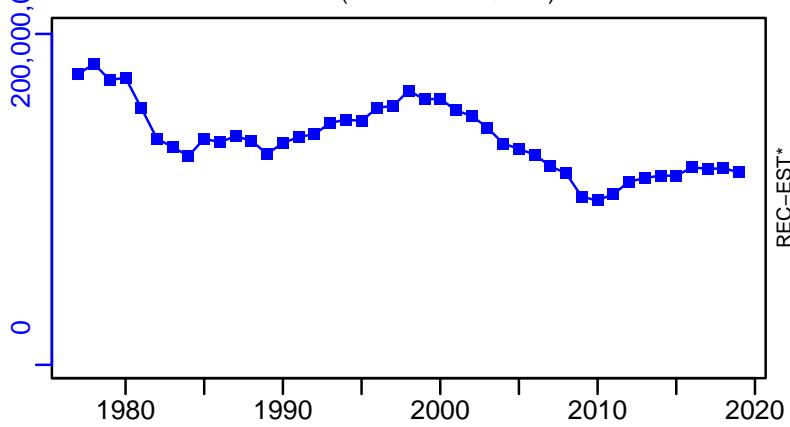
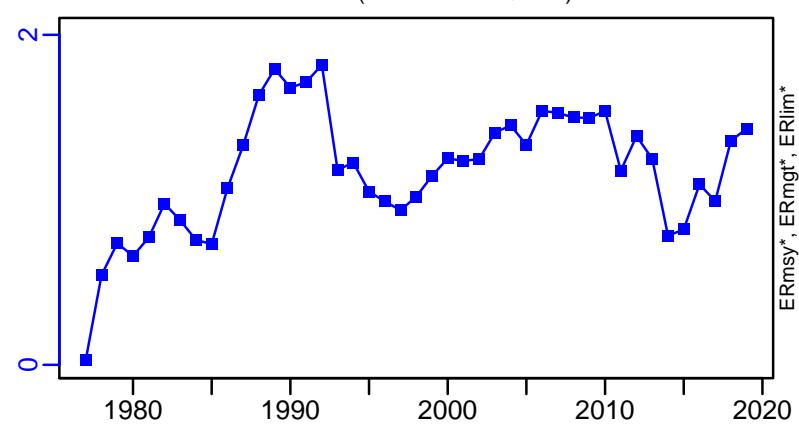
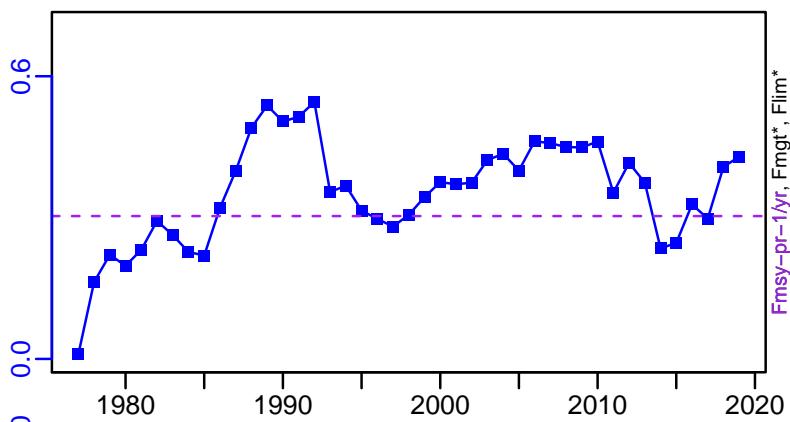
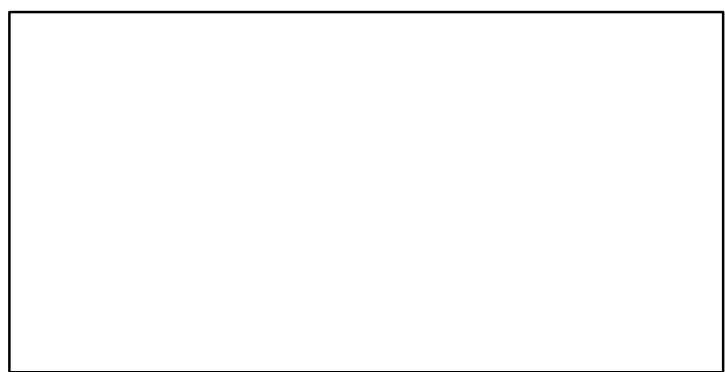
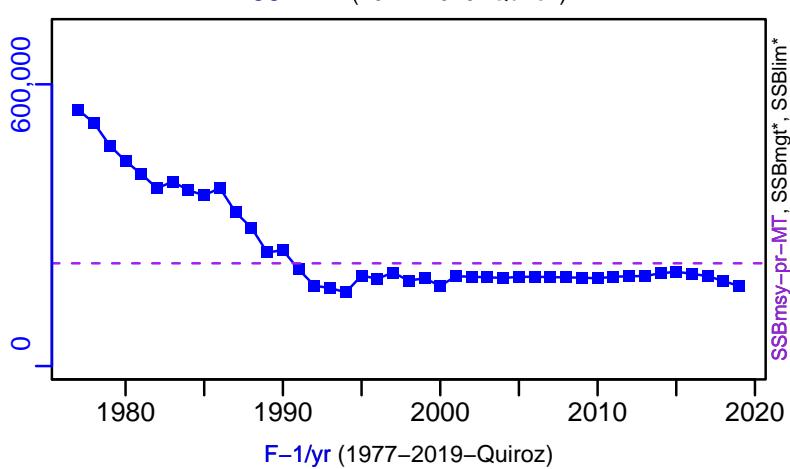
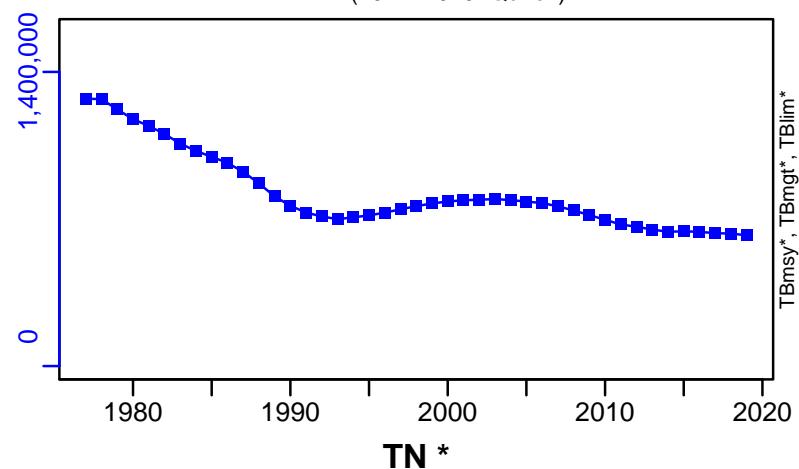


◆ Start Year   ◆ End Year   \* No Data

Southern hake Central–Southern Chile [SOUTHHAKECH]

TB-MT (1977–2019–Quiroz)

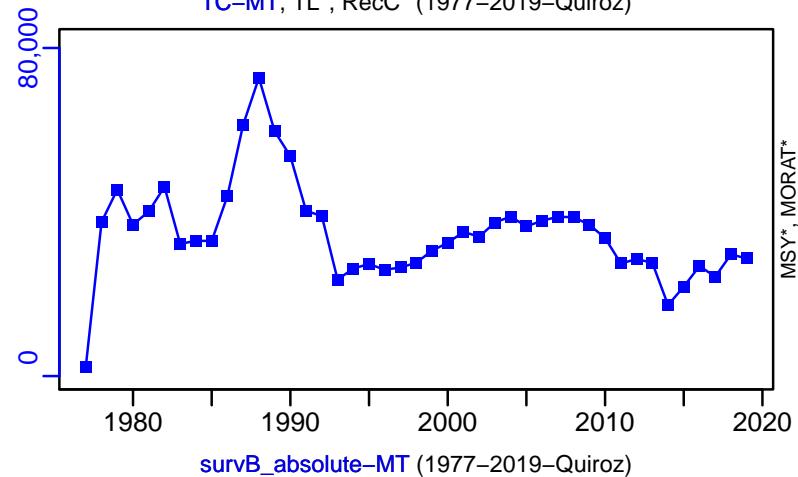
SSB-MT (1977–2019–Quiroz)



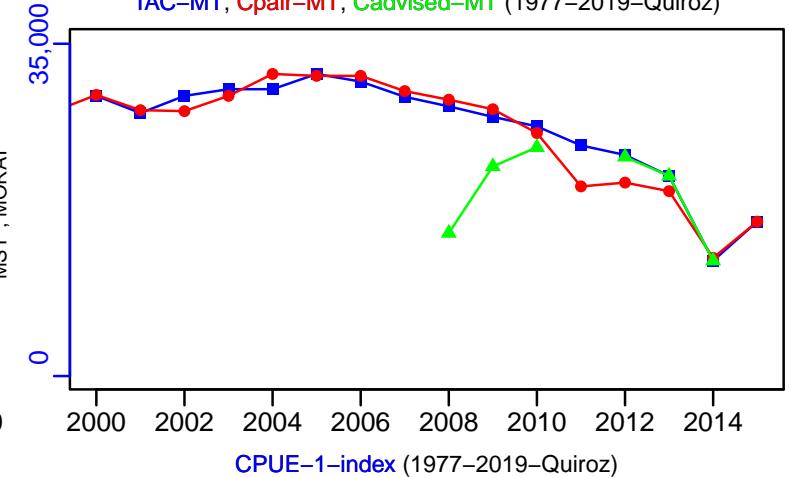
■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	--- Lim BRP	* No Data

Southern hake Central–Southern Chile [SOUTHHAKECH]

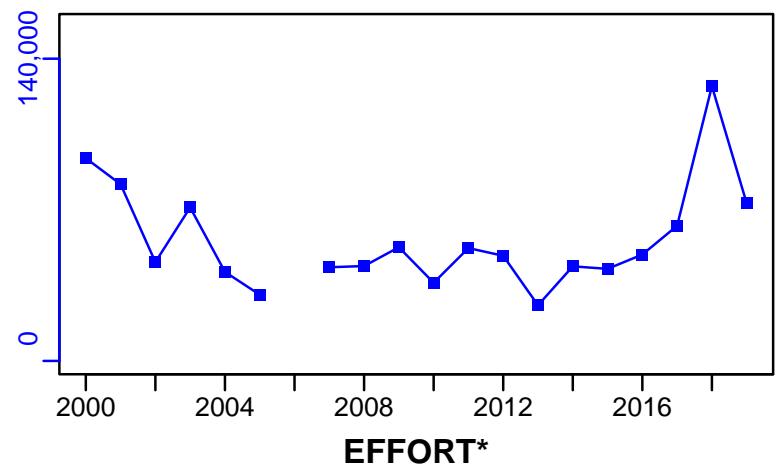
TC-MT, TL\*, RecC\* (1977–2019–Quiroz)



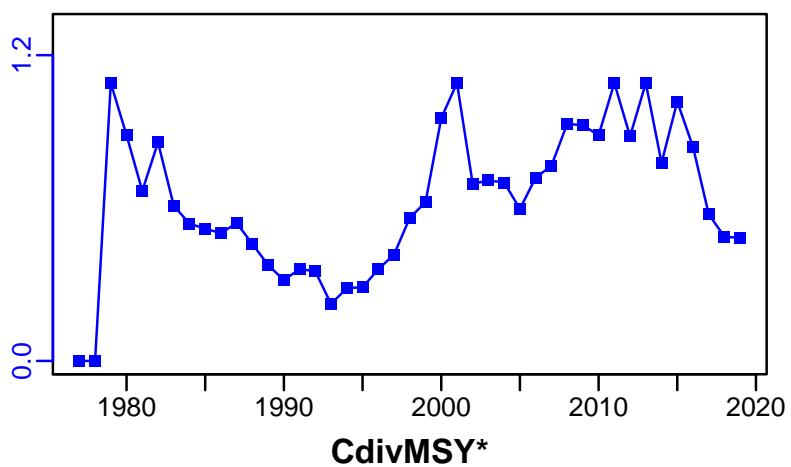
TAC-MT, Cpair-MT, Cadvised-MT (1977–2019–Quiroz)



survB\_absolute-MT (1977–2019–Quiroz)



CPUE-1-index (1977–2019–Quiroz)



EFFORT\*

CdivMSY\*

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

## Southern hake Chatham Rise [SOUTHHAKECR]

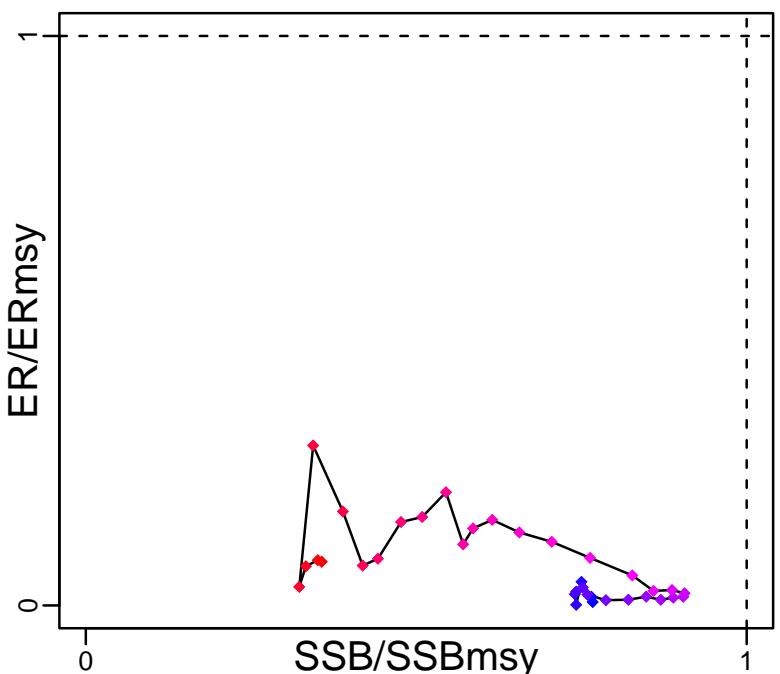
Metadata	
<b>Scientific Name</b>	Merluccius australis
<b>Current Assess ID</b>	NIWA-SOUTHHAKECR-1974-2012-FU
<b>Area</b>	Chatham Rise
<b>Management Authority</b>	Ministry of Fisheries, New Zealand national management
<b>Assessor</b>	National Institute of Water and Atmospheric Research
<b>Asmts in RAM</b>	2012, 2010

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	TBmsy-calc-MT	2012	10,626
<b>SSBmsy</b>	SSBmsy-MT	2012	19,938
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-ratio	2012	0.39
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2012	19,938
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	TB0-MT	2010	88,920
<b>SSB0</b>	SSB0-MT	2012	49,845
<b>MSY</b>	MSY-MT	2012	4144
<b>M</b>	M-1/yr	2012	0.19
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

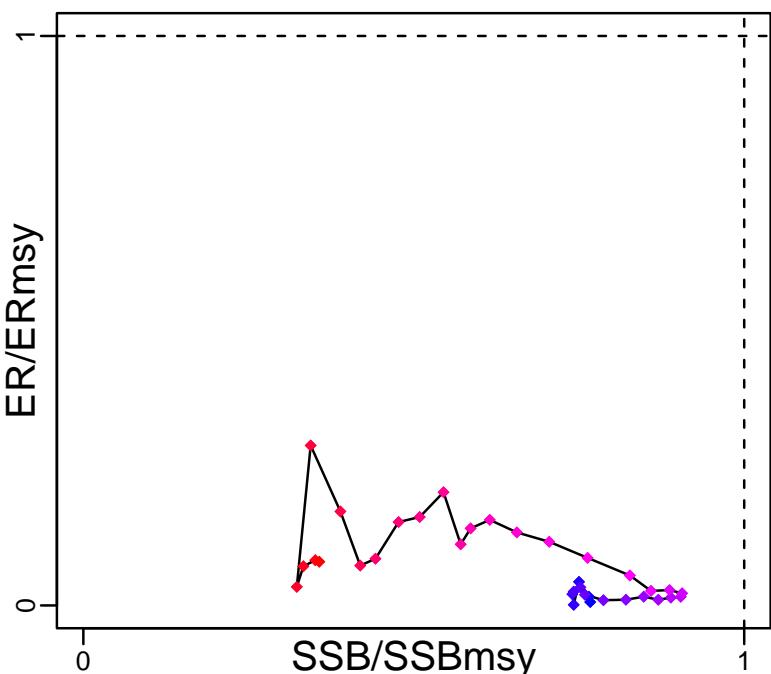
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	-	-	-	-	-	
<b>SSB</b>	SSB-MT	2012	24,600	-	1 to 30	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2012	4,350,000	Both	-	
<b>F</b>	-	-	-	-	-	
<b>ER</b>	ER-ratio	2010	0.026	-	-	
<b>TC</b>	TC-MT	2012	950			
<b>TL</b>	TL-MT	2012	161			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2012	1.234			
<b>F/Fmsy</b>	-	-	-			
<b>ER/ERmsy</b>	ER-ratio/ERmsy-ratio	2010	0.077			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2012	1.234			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

**Southern hake Chatham Rise [SOUTHHAKECR]**

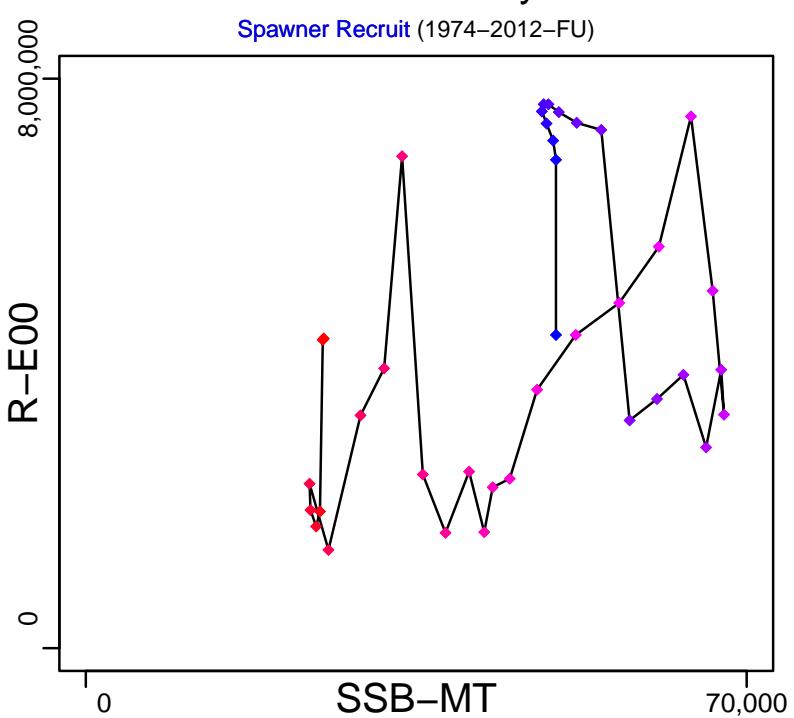
Kobe MSYpref (1975–2010–CHING)



Kobe MGTPref (1975–2010–CHING)



Spawner Recruit (1974–2012–FU)



Production\*



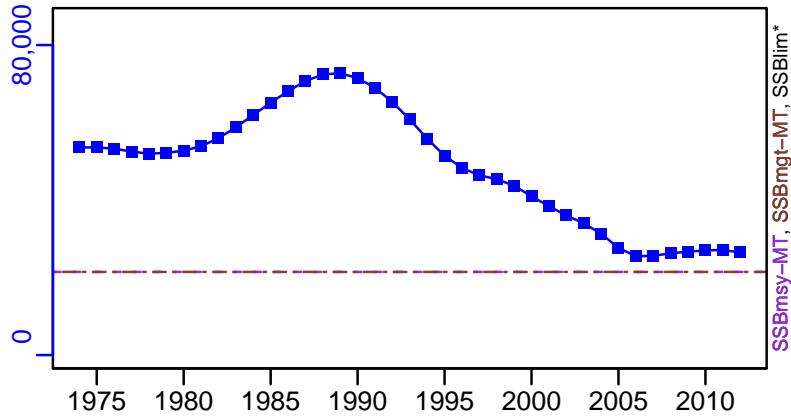
◆ Start Year   ◆ End Year   \* No Data

Southern hake Chatham Rise [SOUTHHAKECR]

**TB\***



**SSB-MT (1974–2012–FU)**



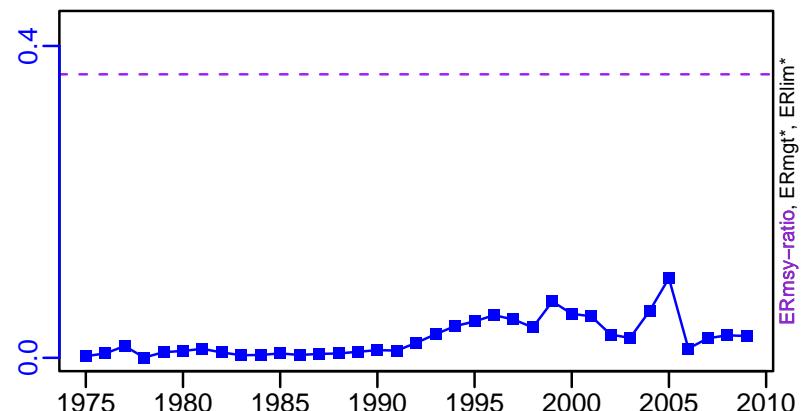
**TN \***



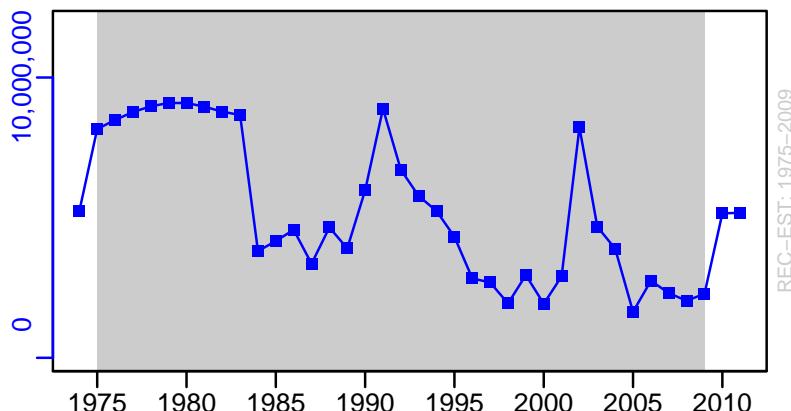
**F\***



**ER-ratio (1975–2010–CHING)**



**R-E00 (1974–2012–FU)**

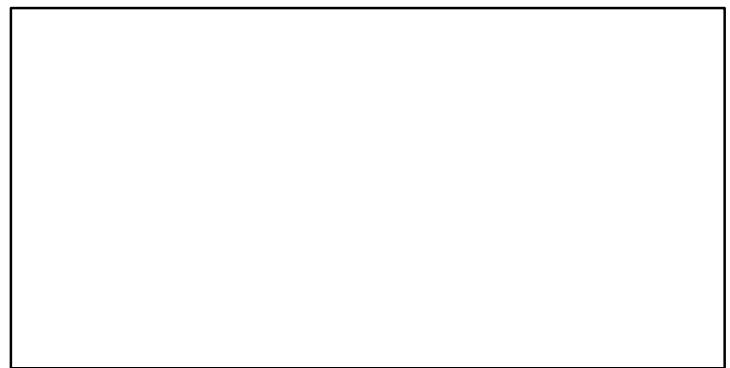
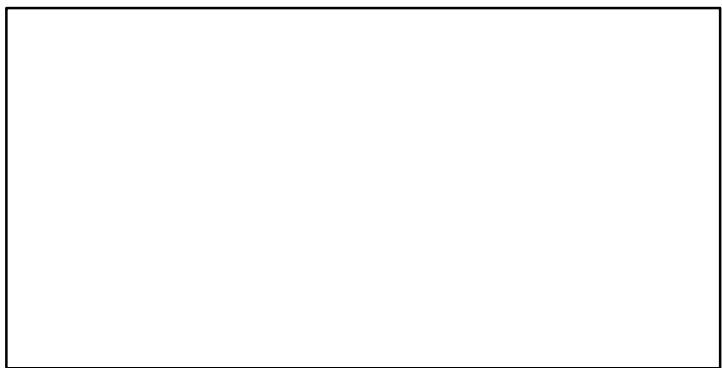
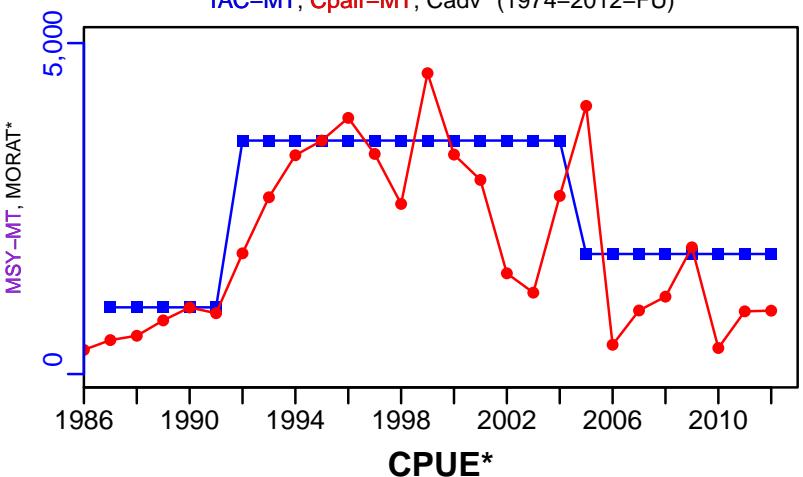
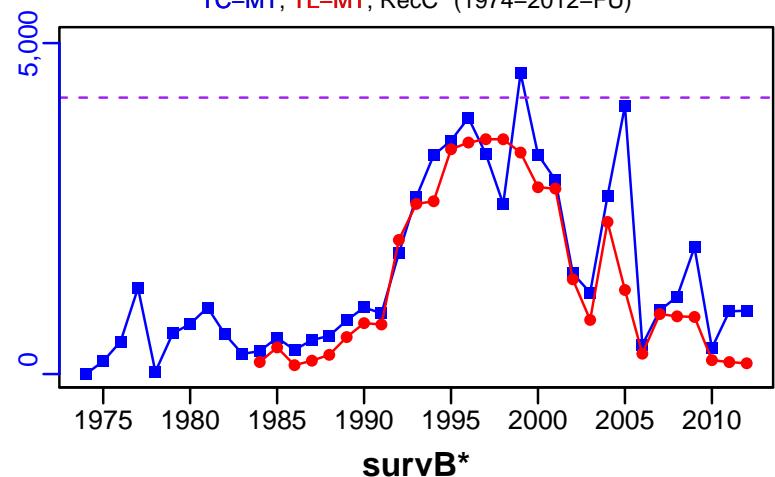


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	·· Lim BRP	* No Data

**Southern hake Chatham Rise [SOUTHHAKECR]**

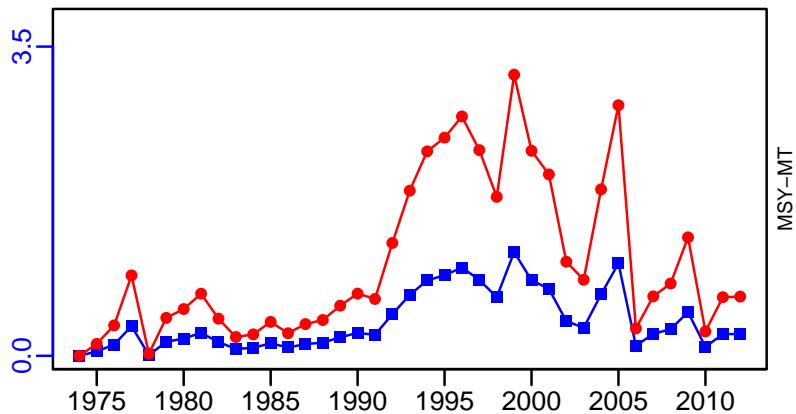
TC-MT, TL-MT, RecC\* (1974–2012-FU)

TAC-MT, Cpair-MT, Cadv\* (1974–2012-FU)



**EFFORT\***

TC-MT/MSY-MT, CdivMEANC-ratio, (1974–2012-FU)



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

## Southern hake Sub-Antarctic [SOUTHHAKESA]

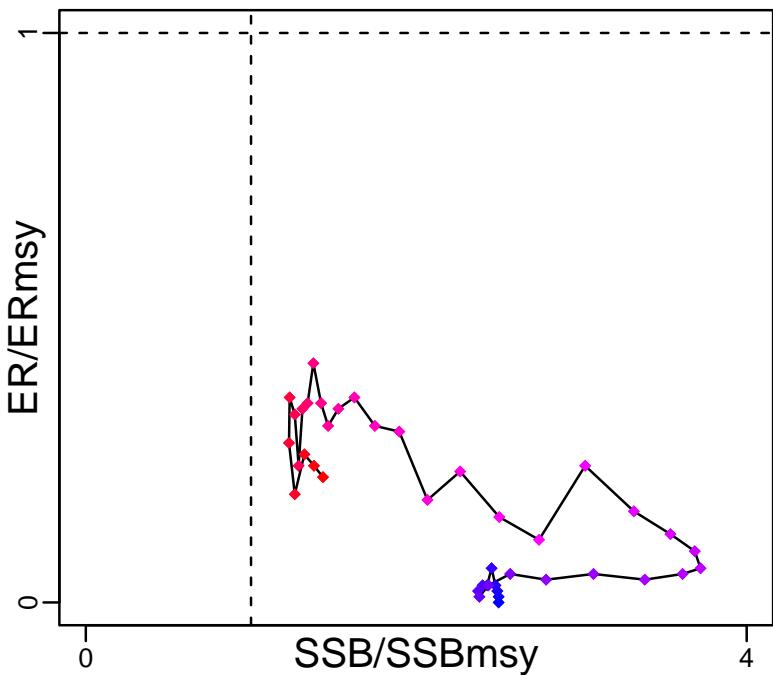
Metadata	
<b>Scientific Name</b>	Merluccius australis
<b>Current Assess ID</b>	NIWA-SOUTHHAKESA-1974-2021-DUNN
<b>Area</b>	Sub-Antarctic
<b>Management Authority</b>	Ministry of Fisheries, New Zealand national management
<b>Assessor</b>	National Institute of Water and Atmospheric Research
<b>Asmts in RAM</b>	2011, 2014, 2021, 2017

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	TBmsy-calc-MT	2014	20,249
<b>SSBmsy</b>	SSBmsy-MT	2017	23,992
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-ratio	2014	0.214
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2021	26,910
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	SSB0-MT	2021	60,223
<b>MSY</b>	MSY-MT	2014	4341
<b>M</b>	M-1/yr	2021	0.19
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

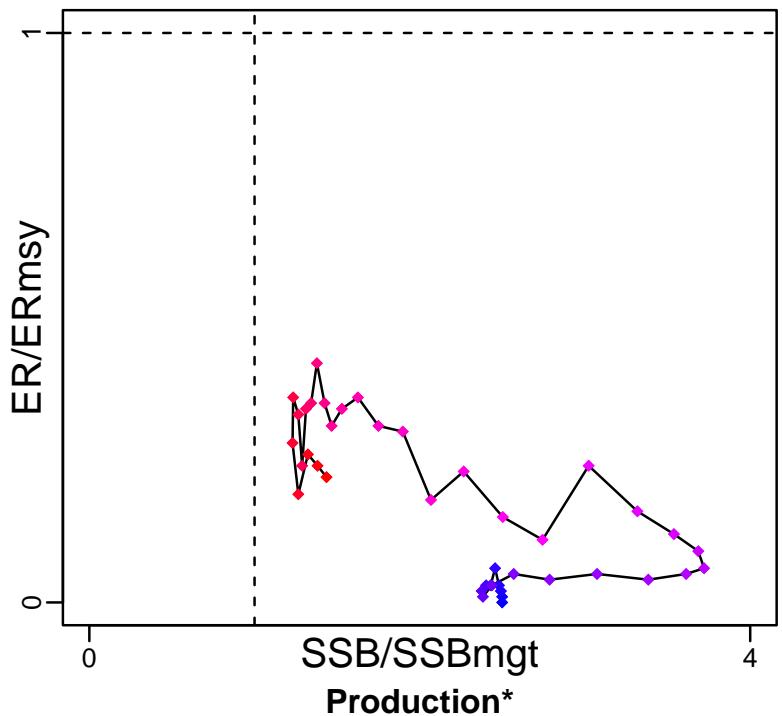
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	-	-	-	-	-	
<b>SSB</b>	SSB-MT	2021	36,373	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2021	6,512,550	Both	1	
<b>F</b>	F-1/yr	2011	0.051	-	-	
<b>ER</b>	ER-ratio	2021	0.029	-	-	
<b>TC</b>	TC-MT	2021	1355			
<b>TL</b>	TL-MT	2021	1355			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2017	1.311			
<b>F/Fmsy</b>	FdivFmsy-dimensionless	2011	0.108			
<b>ER/ERmsy</b>	ERdivERmsy-dimensionless	2014	0.22			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2021	1.352			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

**Southern hake Sub-Antarctic [SOUTHHAKESA]**

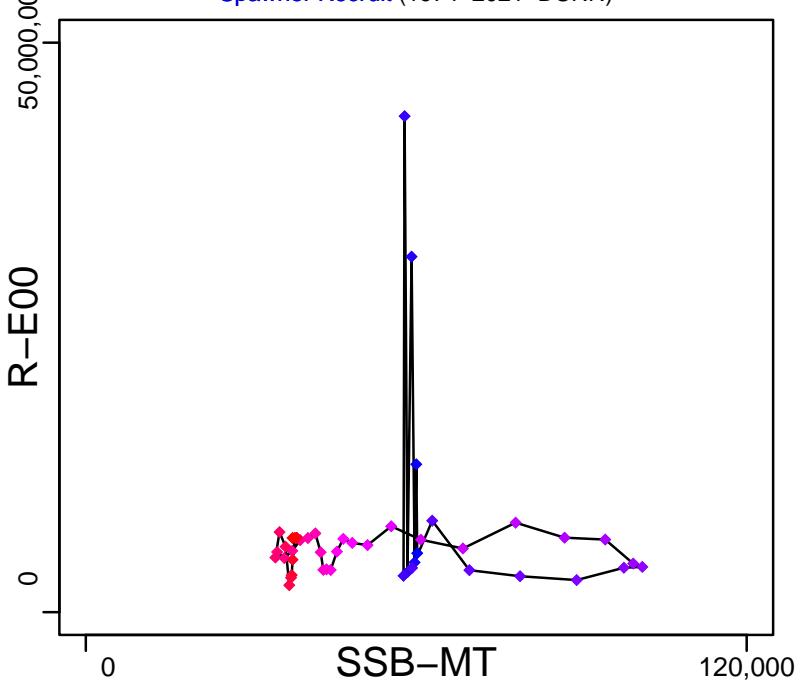
Kobe MSYpref (1974–2014–FU)



Kobe MGTpref (1974–2014–FU)



Spawner Recruit (1974–2021–DUNN)



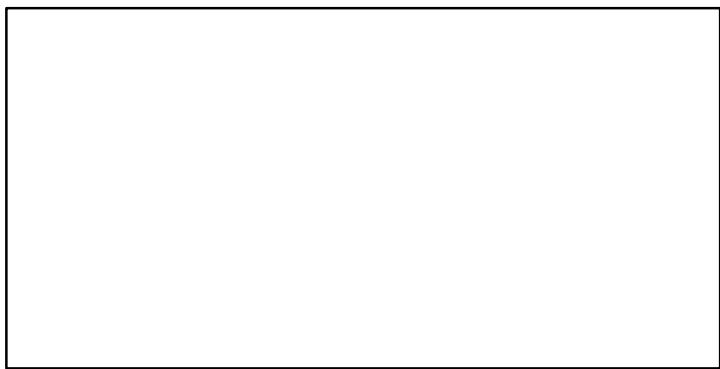
Production\*



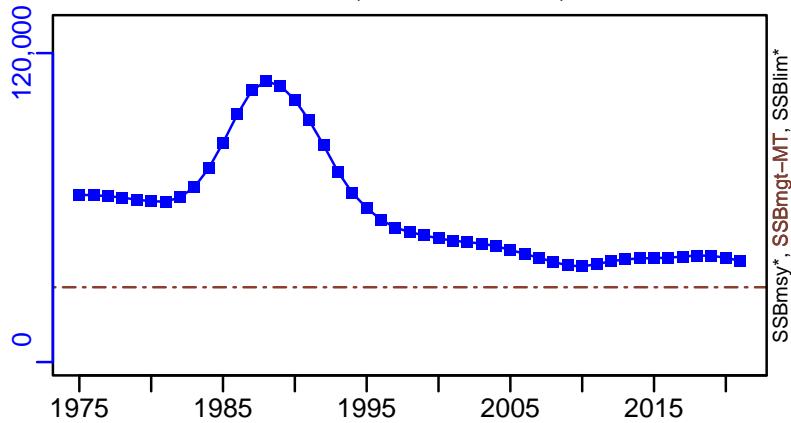
◆ Start Year ♦ End Year \* No Data

Southern hake Sub-Antarctic [SOUTHHAKESA]

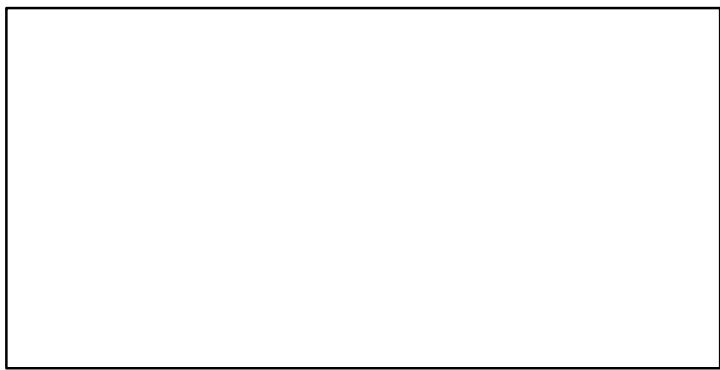
**TB\***



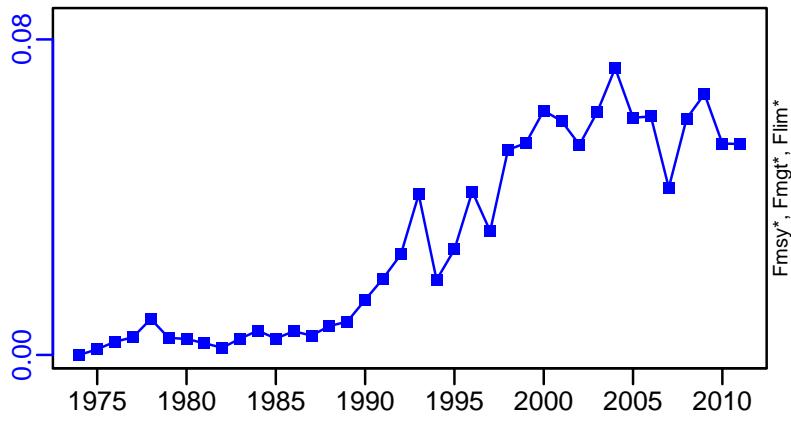
**SSB-MT (1974–2021–DUNN)**



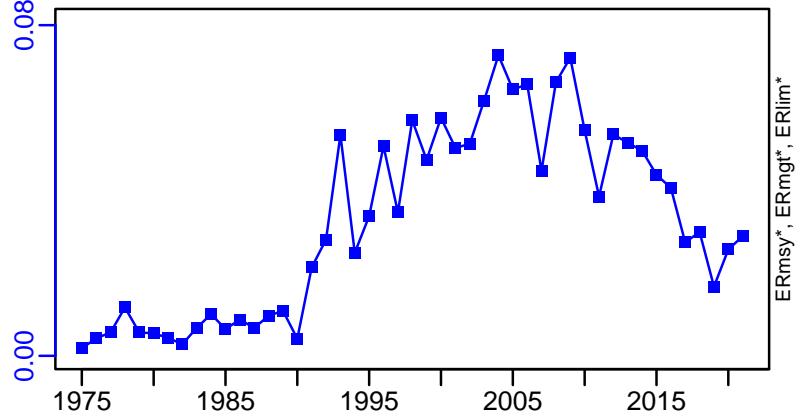
**TN \***



**F-1/yr (1974–2011–CORDUE)**

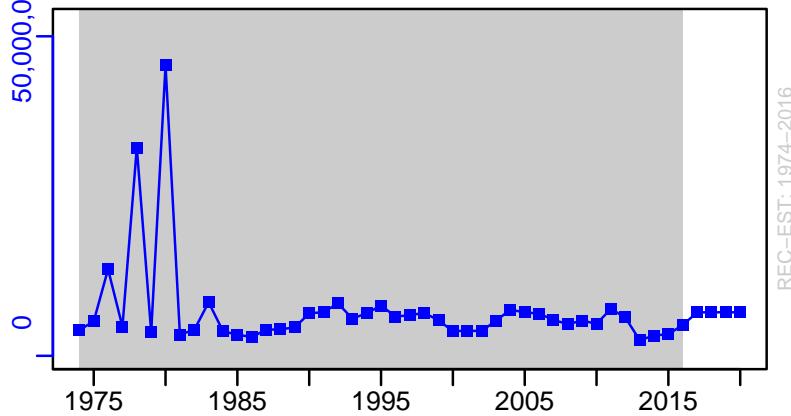


**ER-ratio (1974–2021–DUNN)**



ERmsy\*, ERmt\*, ERlim\*

**R-E00 (1974–2021–DUNN)**



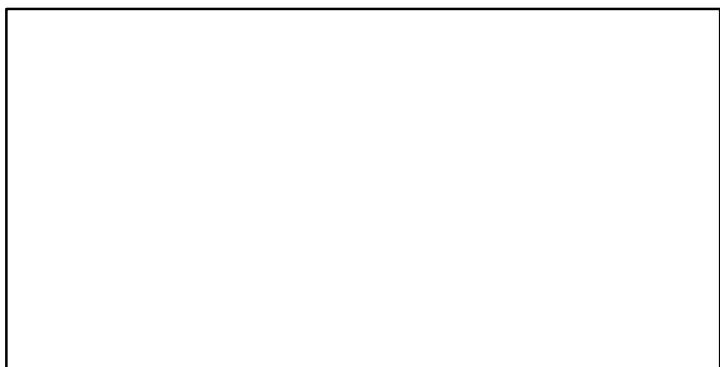
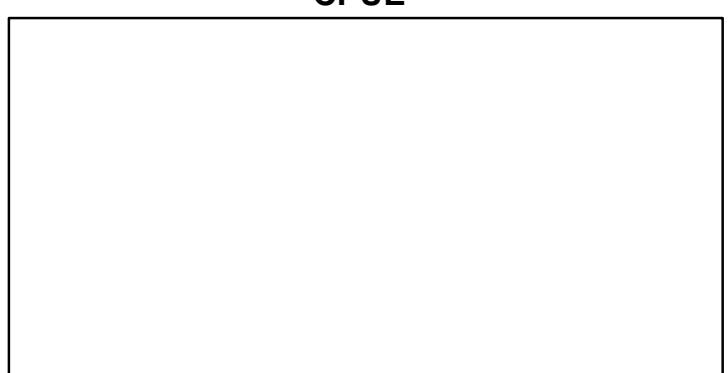
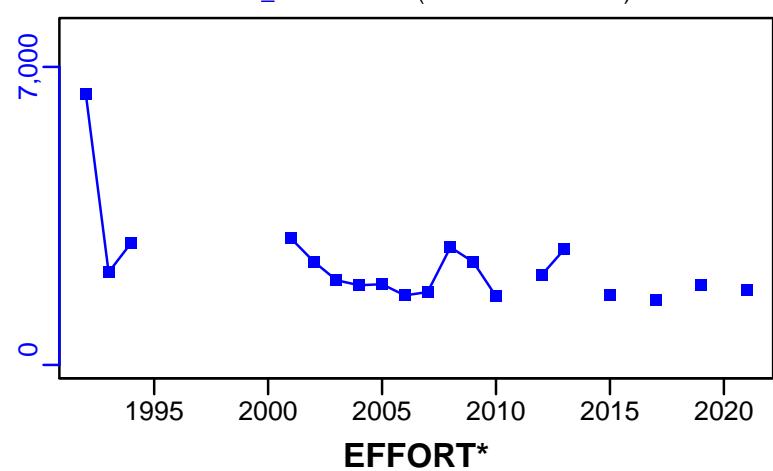
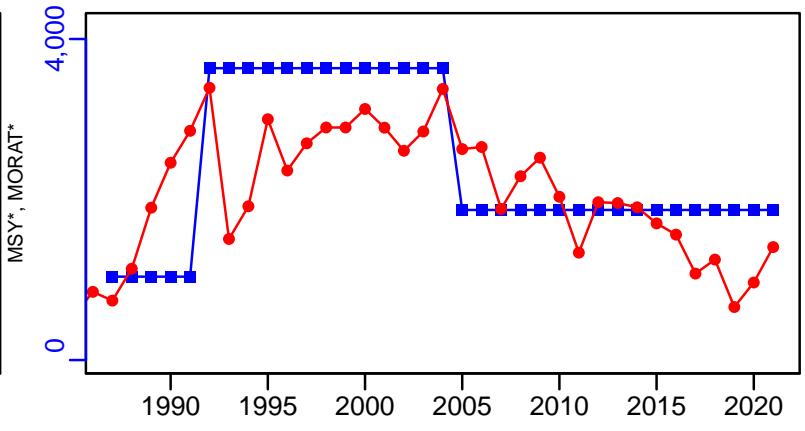
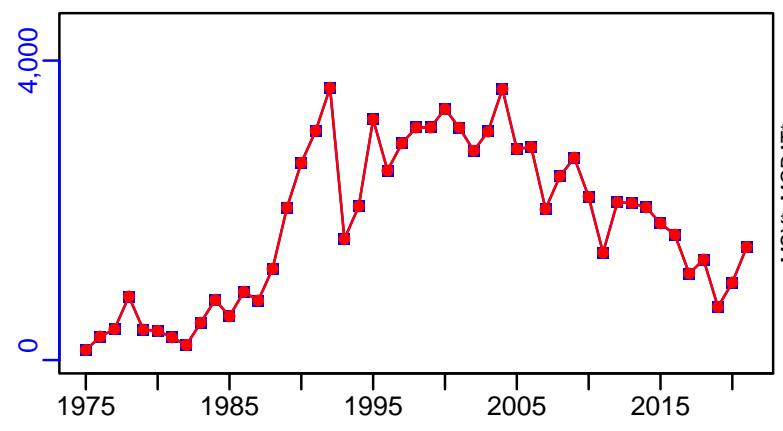
REC-EST: 1974–2016

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

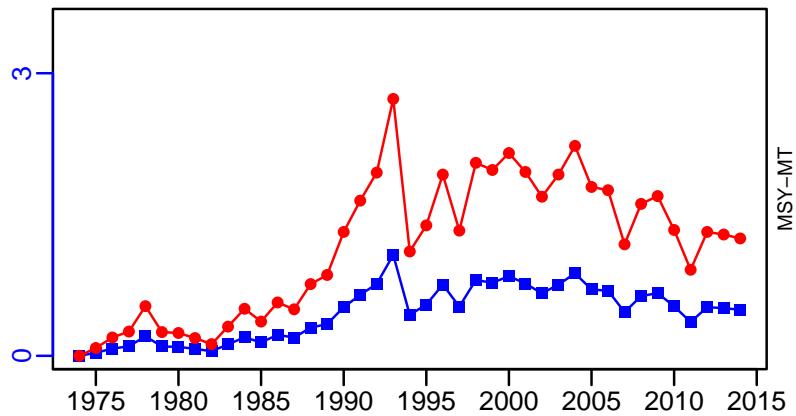
### Southern hake Sub-Antarctic [SOUTHHAKESA]

TC-MT, TL-MT, RecC\* (1974–2021–DUNN)

TAC-MT, Cpair-MT, Cadv\* (1974–2021–DUNN)



TC-MT/MSY-MT, CdivMEANC-ratio, (1974–2014–FU)



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

## Southern hake West Coast South Island [SOUTHHAKEWCSI]

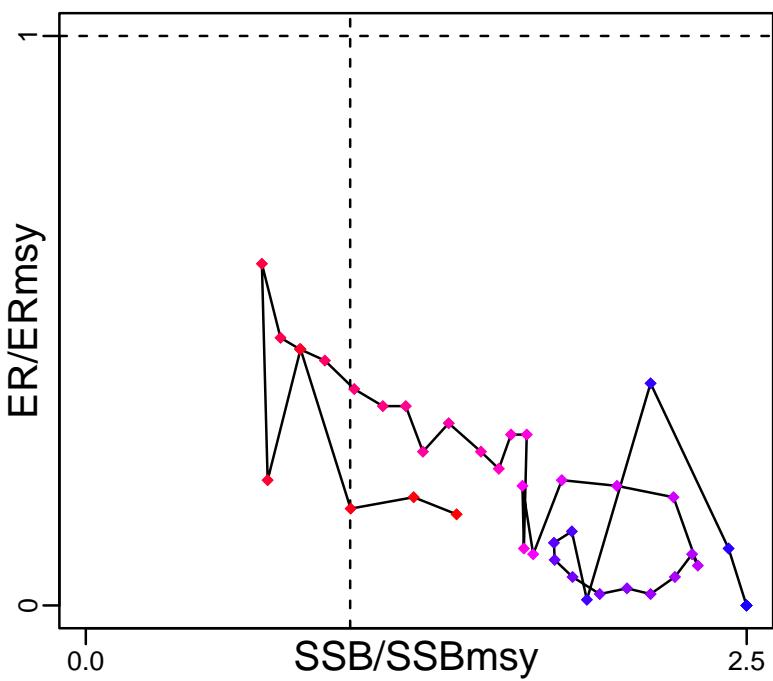
Metadata	
<b>Scientific Name</b>	Merluccius australis
<b>Current Assess ID</b>	NIWA-SOUTHHAKEWCSI-1974-2022-DUNN
<b>Area</b>	West Coast South Island
<b>Management Authority</b>	Ministry of Fisheries, New Zealand national management
<b>Assessor</b>	National Institute of Water and Atmospheric Research
<b>Asmts in RAM</b>	2012, 2022, 2019

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	TBmsy-calc-MT	2012	11,376
<b>SSBmsy</b>	SSBmsy-MT	2019	28,014
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-pr-ratio	2012	0.71
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2022	19,519
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	SSB0-MT	2022	78,202
<b>MSY</b>	MSY-MT	2012	8077
<b>M</b>	M-1/yr	2022	0.19
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

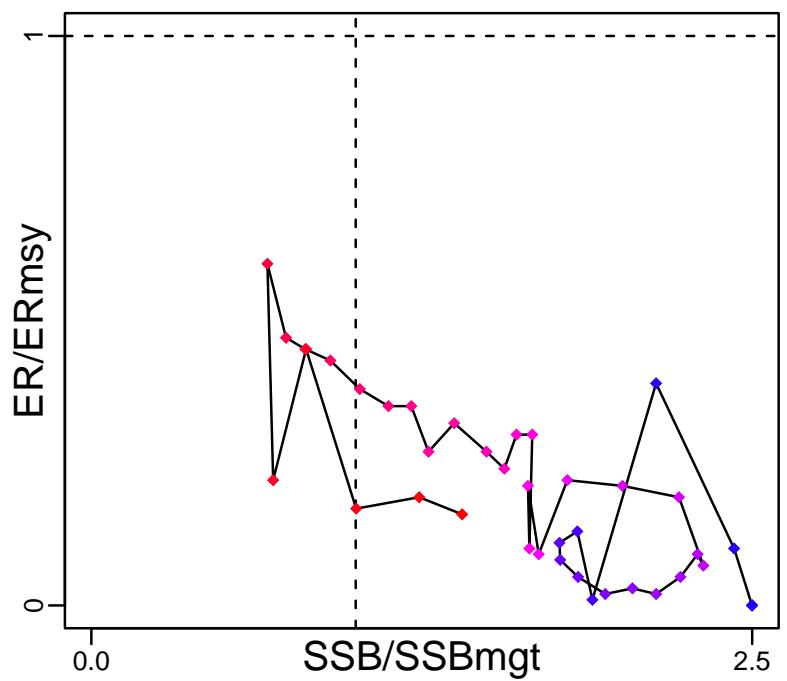
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2022	49,373	-	1+	
<b>SSB</b>	SSB-MT	2022	28,314	Both	-	
<b>TN</b>	TN-E00	2022	24,183,100	-	1+	
<b>R</b>	R-E00	2022	6,390,470	Both	1	
<b>F</b>	-	-	-	-	-	
<b>ER</b>	ER-ratio	2022	0.105	-	-	
<b>TC</b>	TC-MT	2022	1367			
<b>TL</b>	TL-MT	2022	1367			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2019	0.422			
<b>F/Fmsy</b>	-	-	-			
<b>ER/ERmsy</b>	ERdivERmsy-dimensionless	2012	0.16			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2022	1.451			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

Southern hake West Coast South Island [SOUTHSHAKEWCSI]

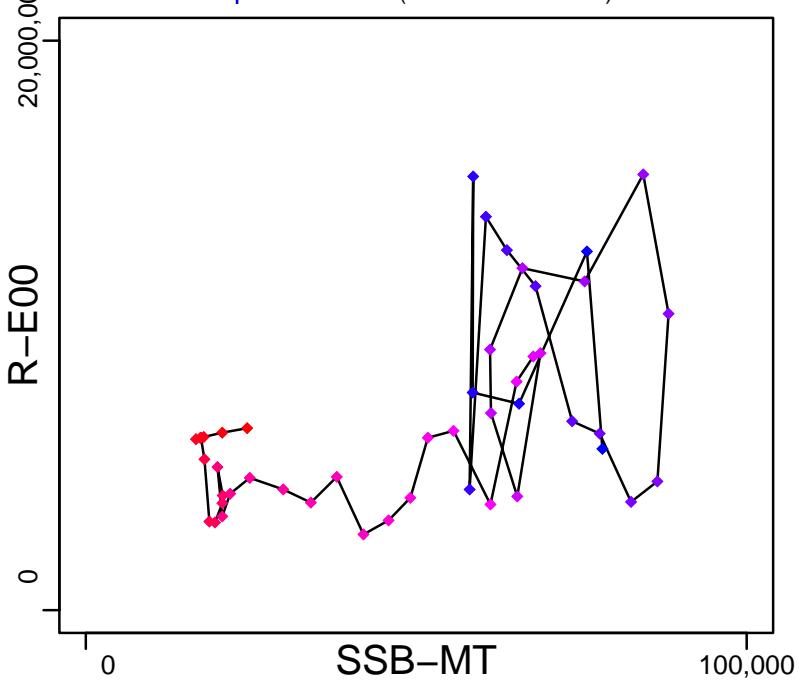
Kobe MSYpref (1973–2012–FU)



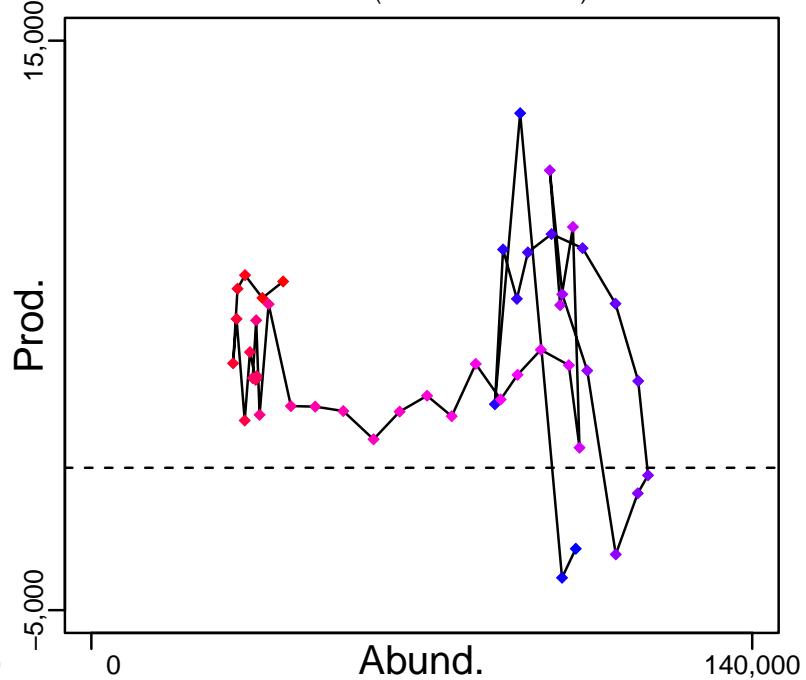
Kobe MGTpref (1973–2012–FU)



Spawner Recruit (1974–2022–DUNN)



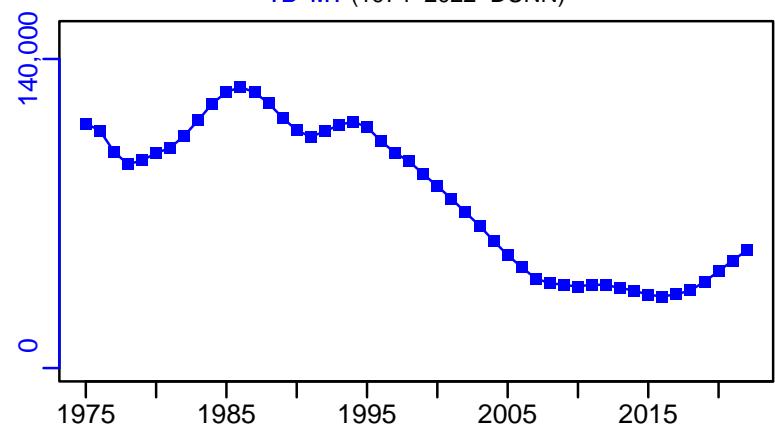
Production (1974–2022–DUNN)



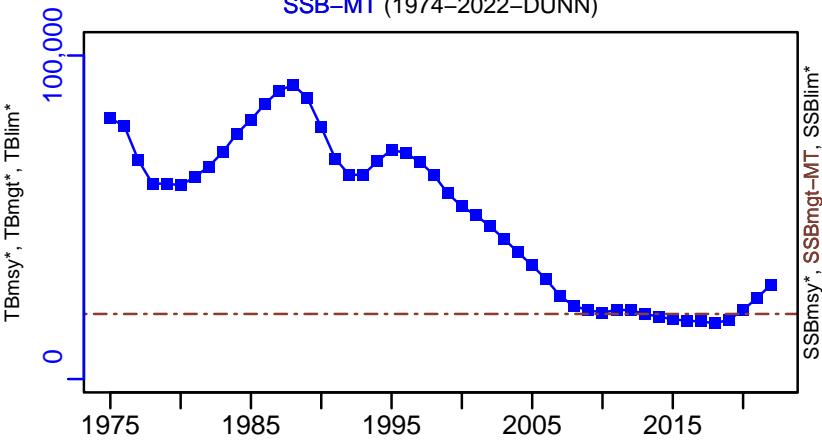
◆ Start Year ♦ End Year \* No Data

Southern hake West Coast South Island [SOUTHSHAKEWCSI]

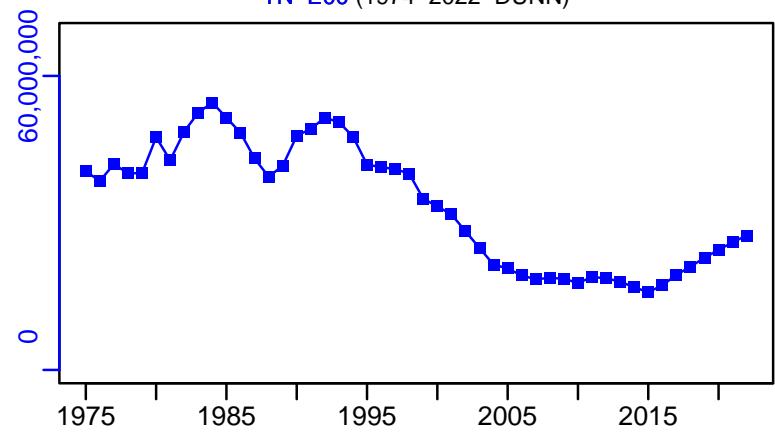
TB-MT (1974–2022–DUNN)



SSB-MT (1974–2022–DUNN)



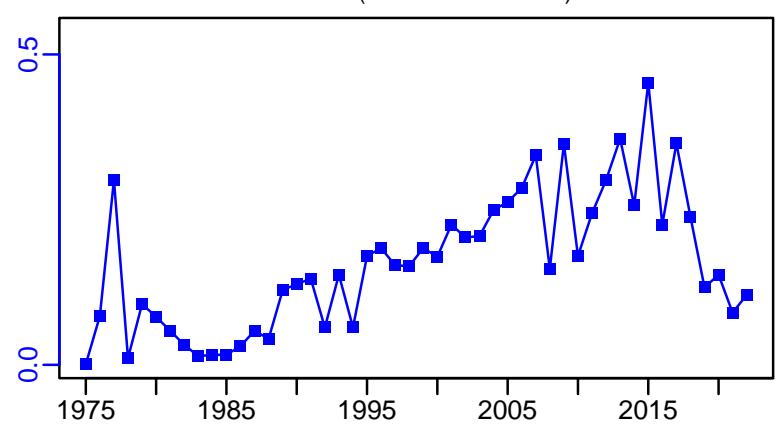
TN-E00 (1974–2022–DUNN)



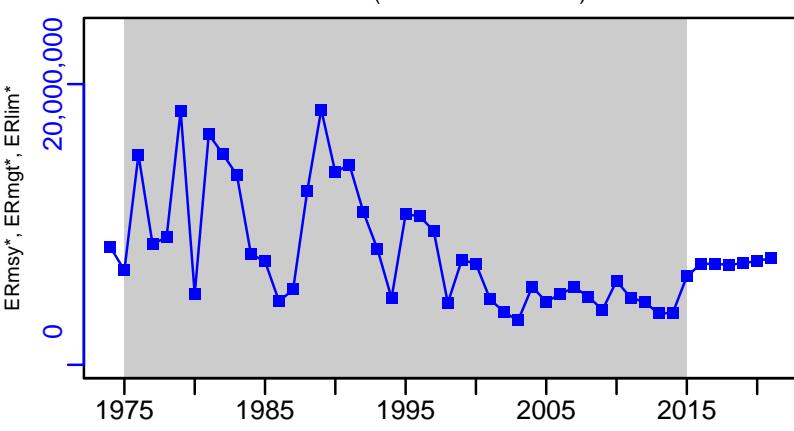
F\*



ER-ratio (1974–2022–DUNN)



R-E00 (1974–2022–DUNN)



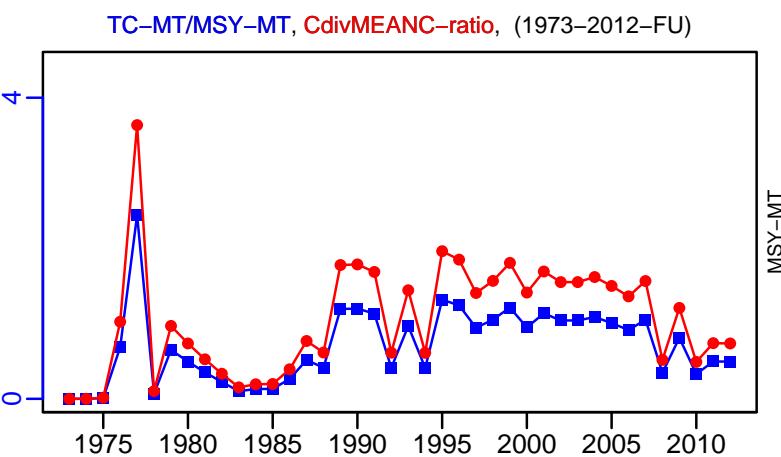
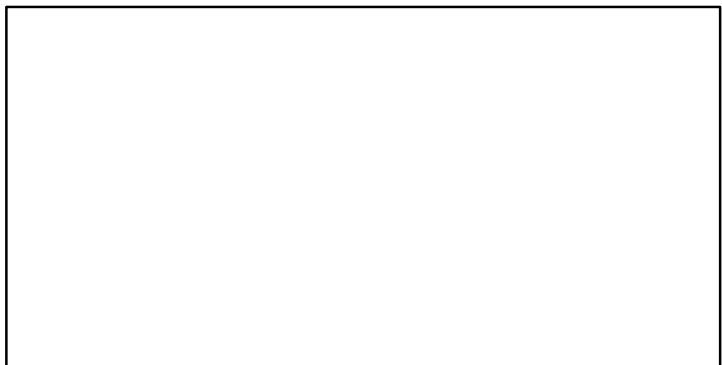
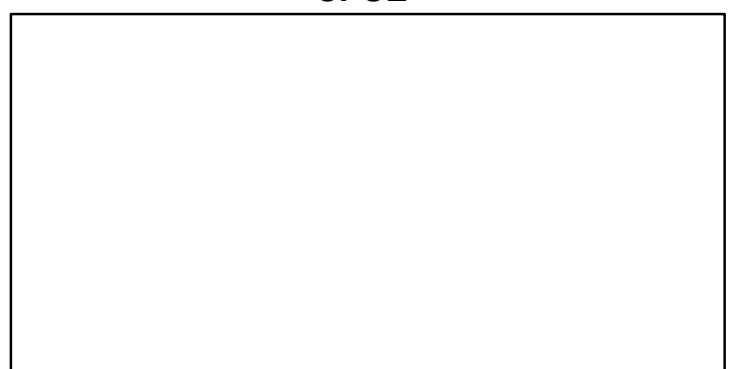
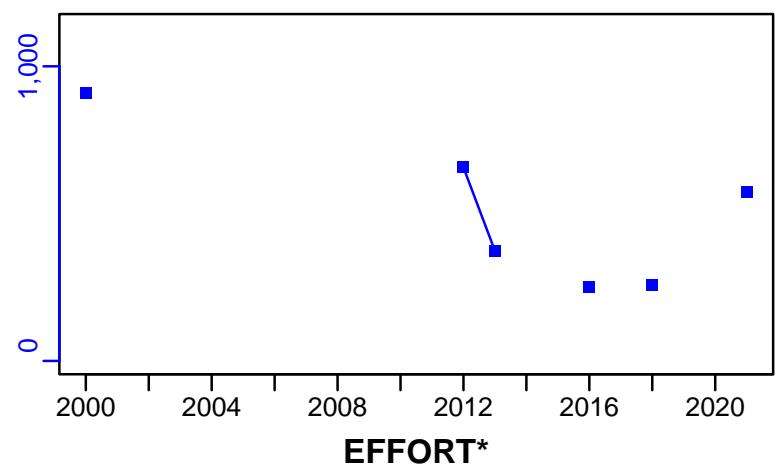
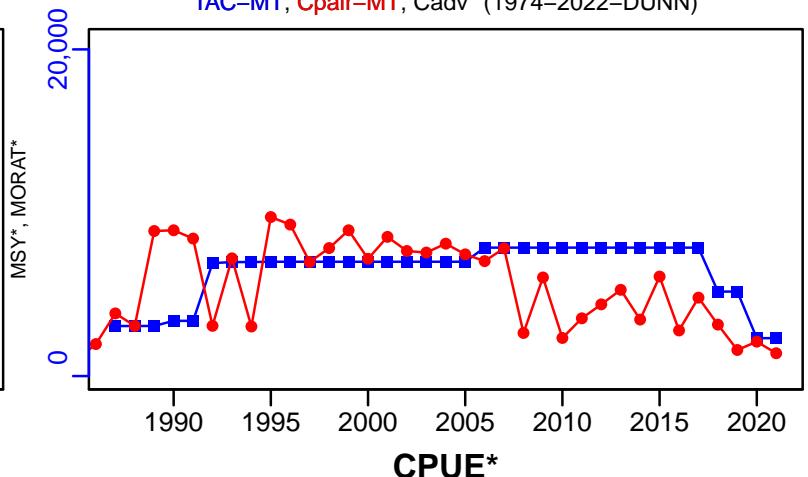
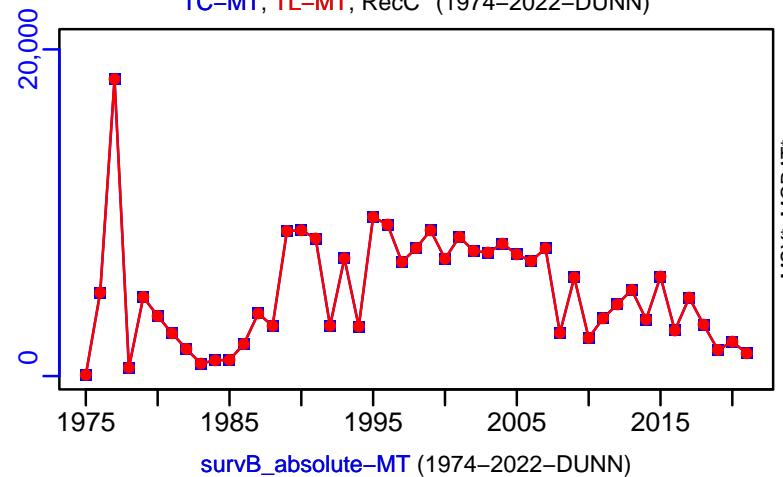
REC-EST: 1975–2015

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

Southern hake West Coast South Island [SOUTHSHAKEWCSI]

TC-MT, TL-MT, RecC\* (1974–2022–DUNN)

TAC-MT, Cpair-MT, Cadv\* (1974–2022–DUNN)



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

## South Pacific hake Central-Southern Chile [SPHAKECH]

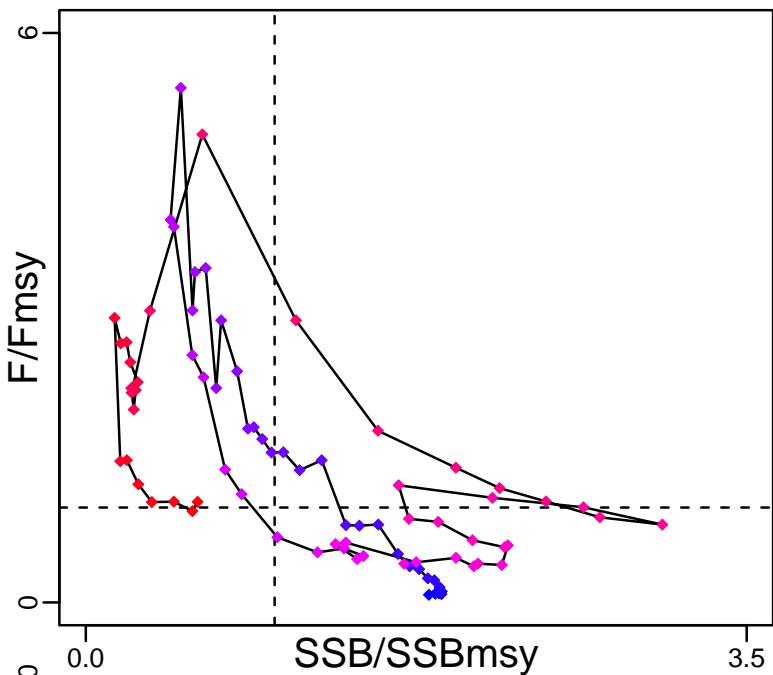
<b>Metadata</b>	
<b>Scientific Name</b>	Merluccius gayi
<b>Current Assess ID</b>	IFOPCH-SPHAKECH-1940-2020-Quiroz
<b>Area</b>	Central-Southern Chile
<b>Management Authority</b>	Subsecretaria de Pesca
<b>Assessor</b>	Instituto de Fomento Pesquero - Chilean Fisheries Development Institute
<b>Asmts in RAM</b>	2015, 2020, 2012

<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	SSBmsy-pr-MT	2020	280,000
<b>Fmsy</b>	Fmsy-pr-1/yr	2020	0.2
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2020	280,000
<b>Fmgt</b>	Fmgt-1/yr	2020	0.2
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	SSB0-MT	2020	587,360
<b>MSY</b>	-	-	-
<b>M</b>	M-1/yr	2015	0.33
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

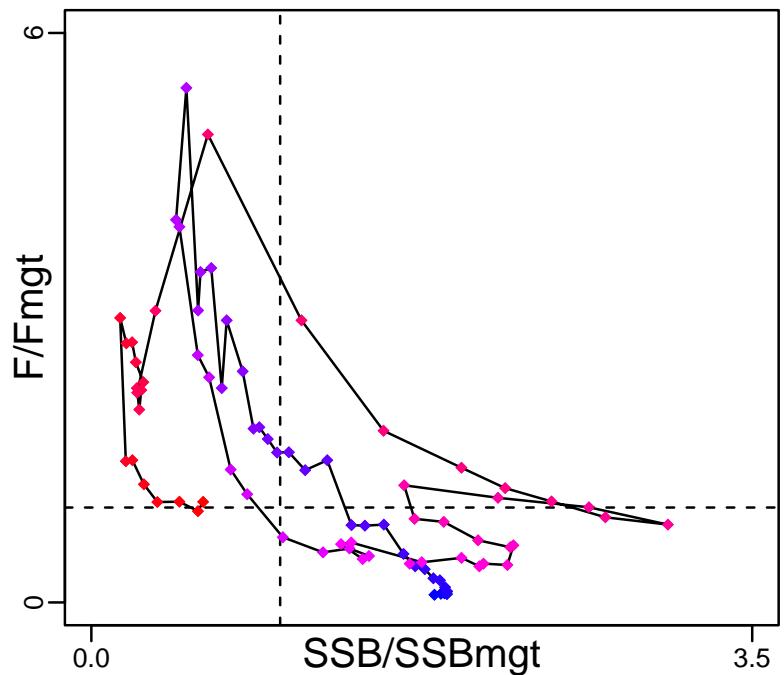
<b>Time Series</b>						
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Curr Value</b>	<b>Sex</b>	<b>Age</b>	
<b>TB</b>	TB-MT	2020	381,369	-	-	
<b>SSB</b>	SSB-MT	2020	165,767	Both	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2020	412,339,000	Both	-	
<b>F</b>	F-1/yr	2020	0.212	-	-	
<b>ER</b>	ER-calc-ratio	2020	0.145	-	-	
<b>TC</b>	-	-	-			
<b>TL</b>	TL-MT	2020	55,400			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	SSBdivSSBmsy-dimensionless	2020	0.592			
<b>F/Fmsy</b>	FdivFmsy-dimensionless	2020	1.06			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2020	0.592			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2020	1.06			
<b>ER/ERmgt</b>	-	-	-			

South Pacific hake Central–Southern Chile [SPHAKECH]

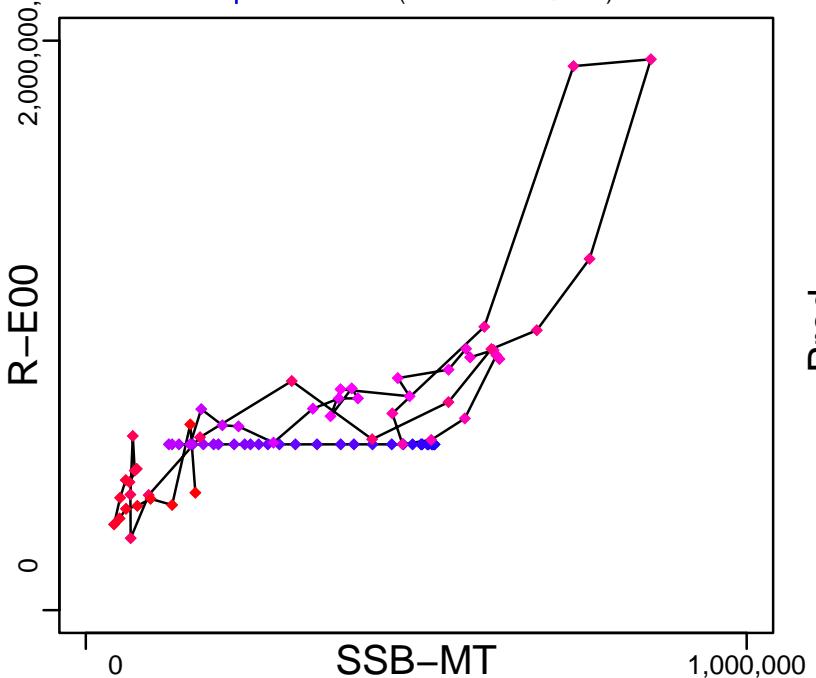
Kobe MSYpref (1940–2020–Quiroz)



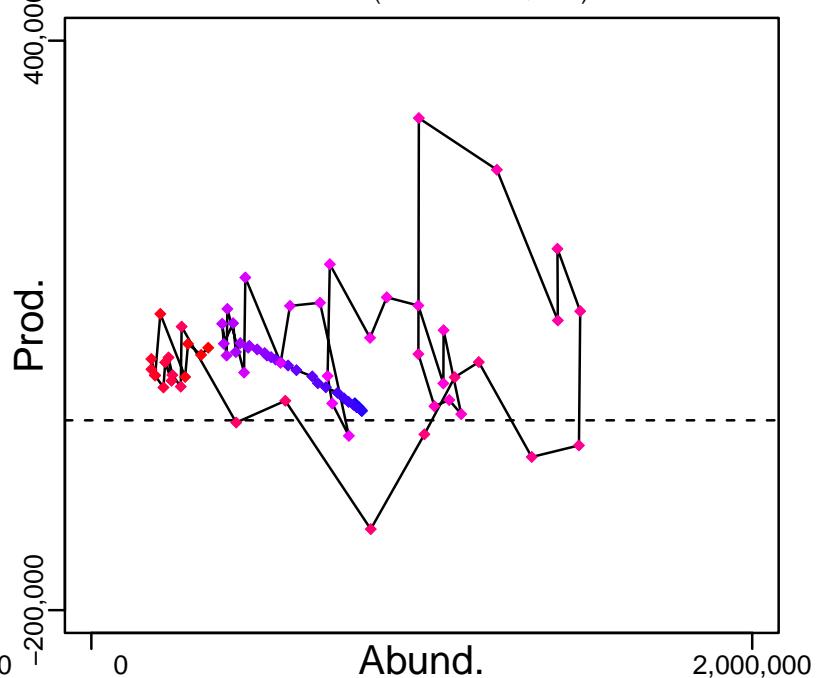
Kobe MGTPref (1940–2020–Quiroz)



Spawner Recruit (1940–2020–Quiroz)



Production (1940–2020–Quiroz)

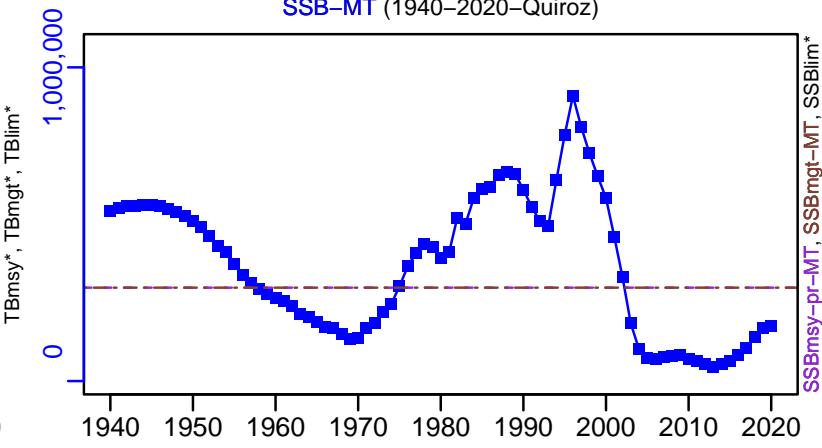
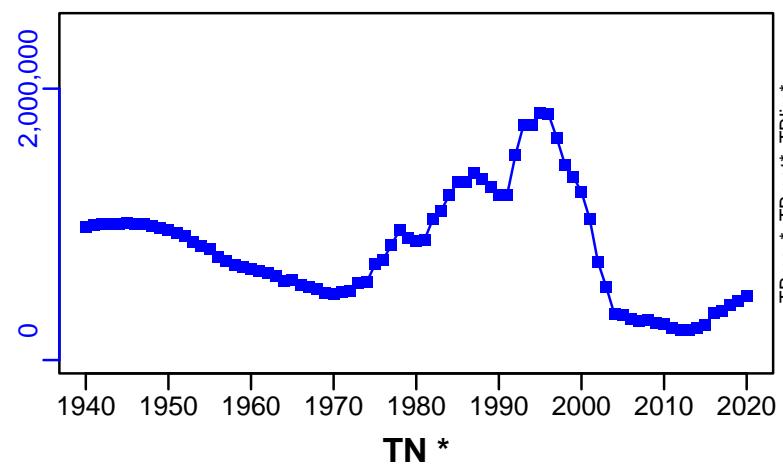


◆ Start Year	◆ End Year	*	No Data
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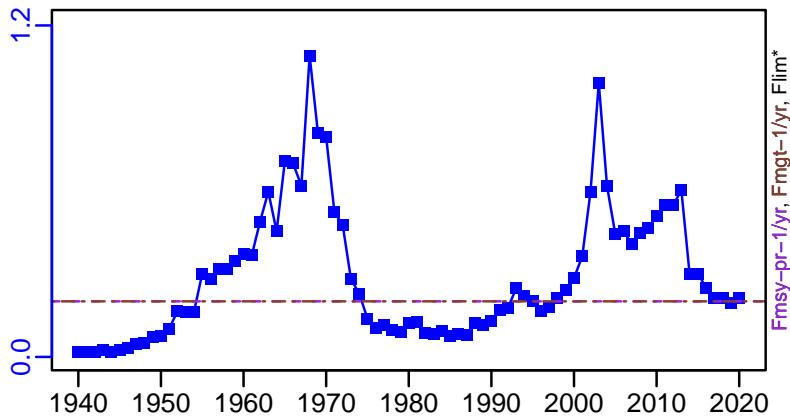
South Pacific hake Central–Southern Chile [SPHAKECH]

TB-MT (1940–2020–Quiroz)

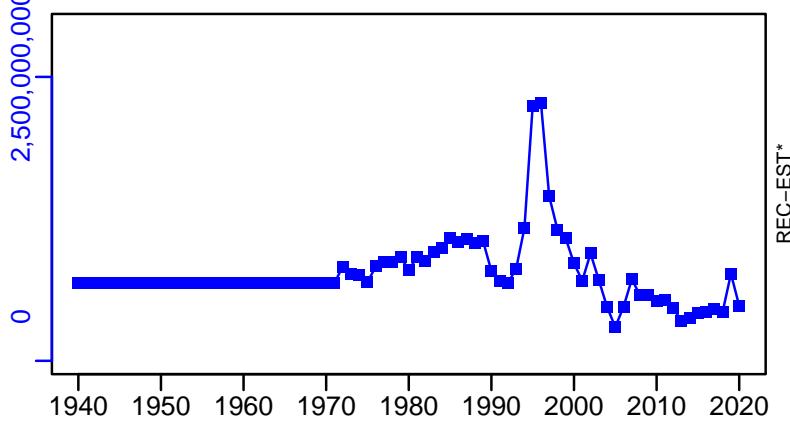
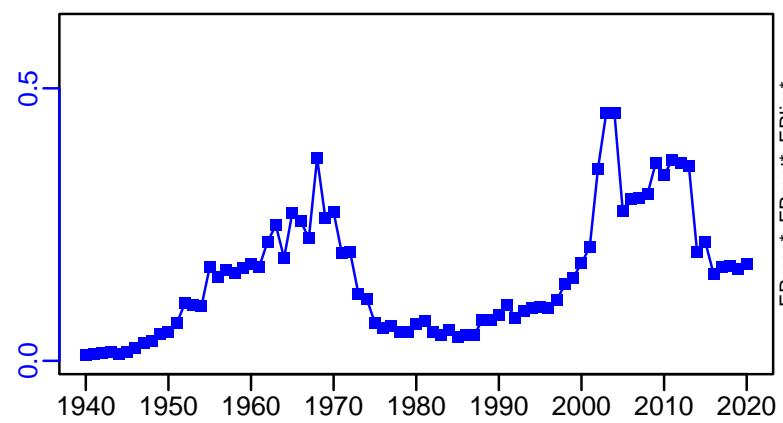
SSB-MT (1940–2020–Quiroz)



**TN \***



ER-calc-ratio (1940–2020–Quiroz)

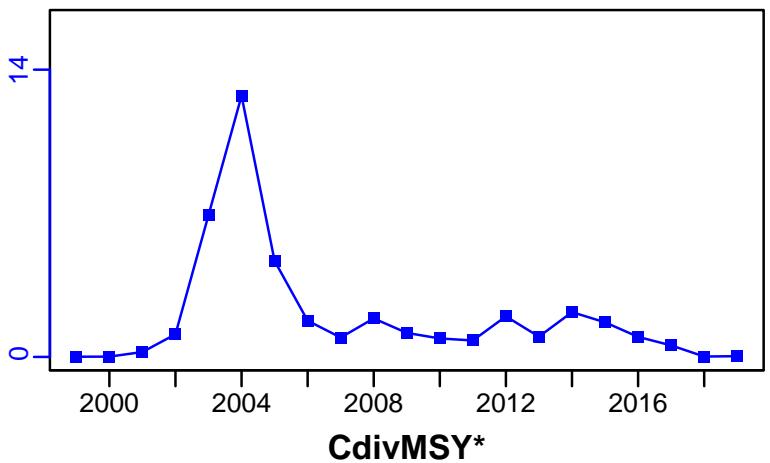
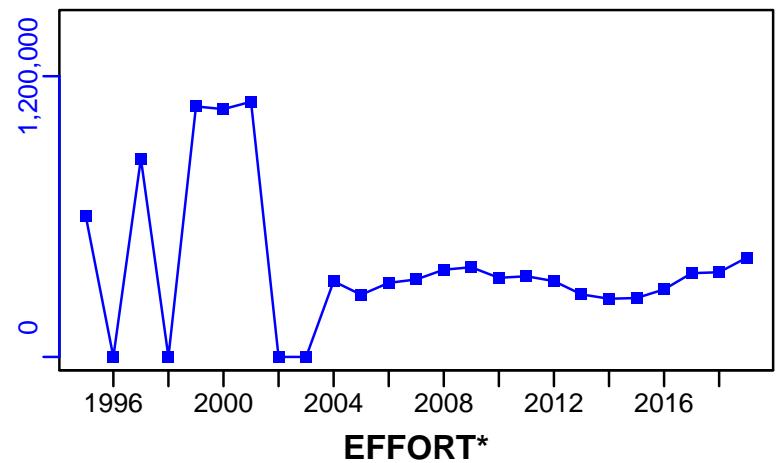
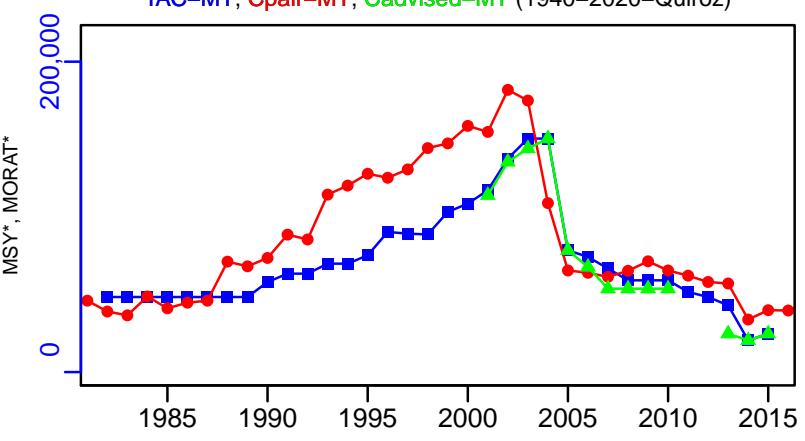
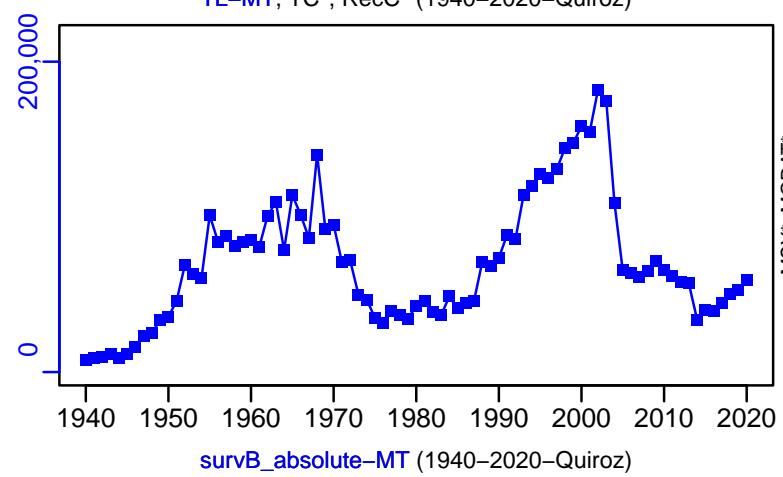


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	--- Lim BRP	* No Data

**South Pacific hake Central–Southern Chile [SPHAKECH]**

TL-MT, TC\*, RecC\* (1940–2020–Quiroz)

TAC-MT, Cpair-MT, Cadvised-MT (1940–2020–Quiroz)



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

## White hake St. Pierre Bank [WHAKE3Ps]

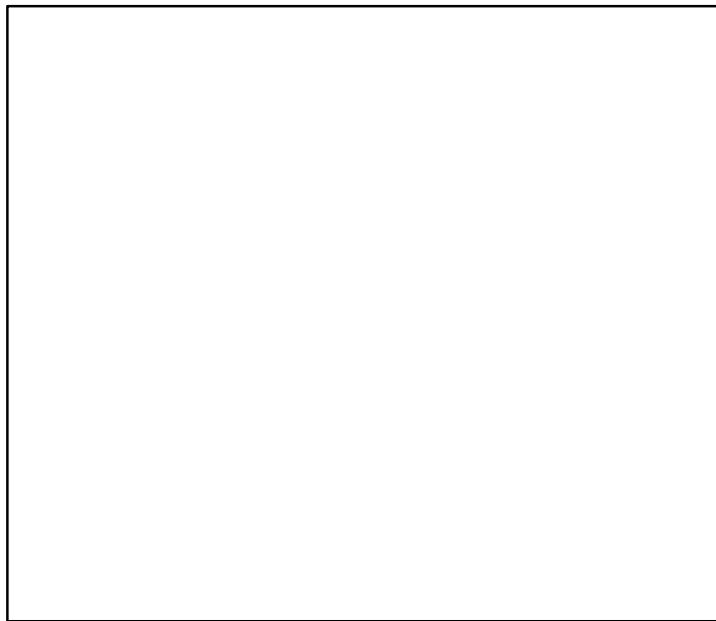
<b>Metadata</b>	
<b>Scientific Name</b>	Urophycis tenuis
<b>Current Assess ID</b>	NAFO-SC-WHAKE3Ps-1960-2017-ASHBROOK
<b>Area</b>	St. Pierre Bank
<b>Management Authority</b>	Northwest Atlantic Fisheries Organization
<b>Assessor</b>	NAFO Scientific Council
<b>Asmts in RAM</b>	2017

<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>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

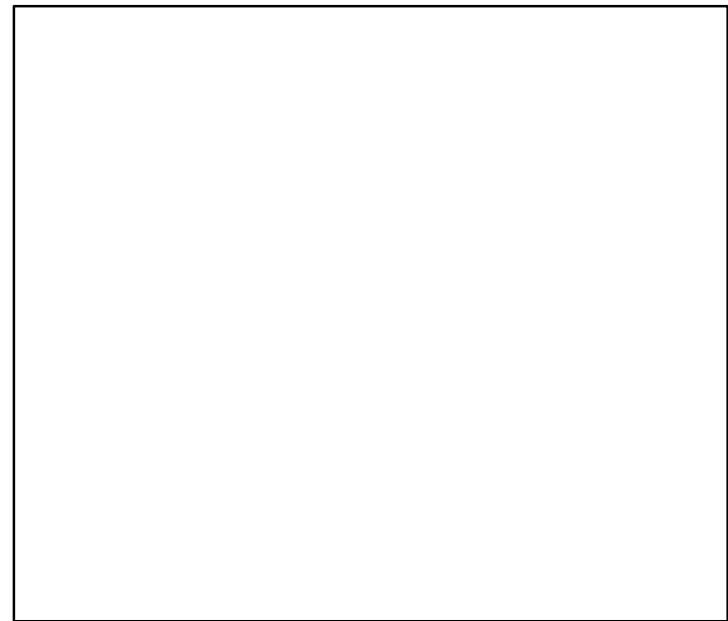
<b>Time Series</b>					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	-	-	-		
<b>TL</b>	TL-MT	2017	445		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

**White hake St. Pierre Bank [WHAKE3Ps]**

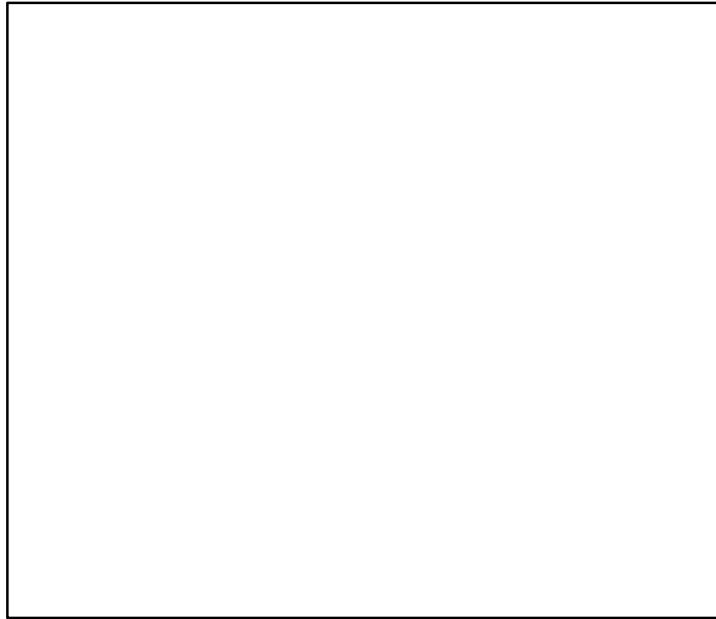
**Kobe MSY\***



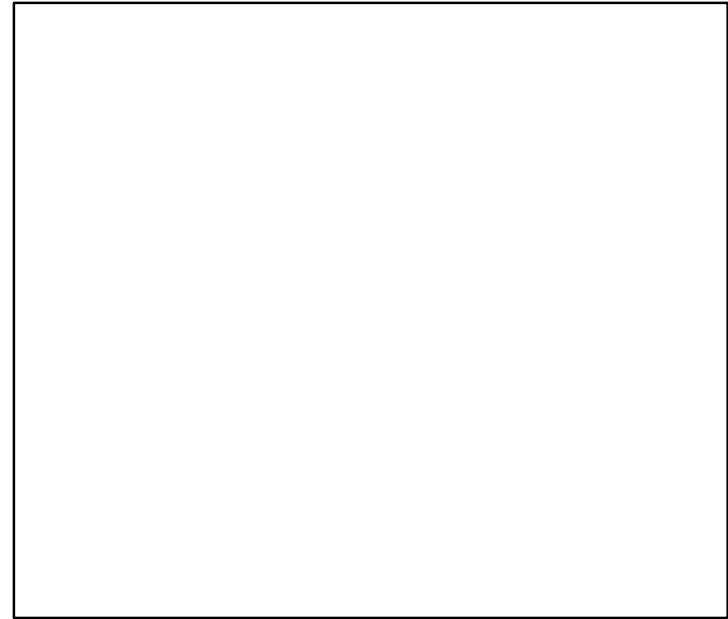
**Kobe MGT\***



**Spawner Recruit\***



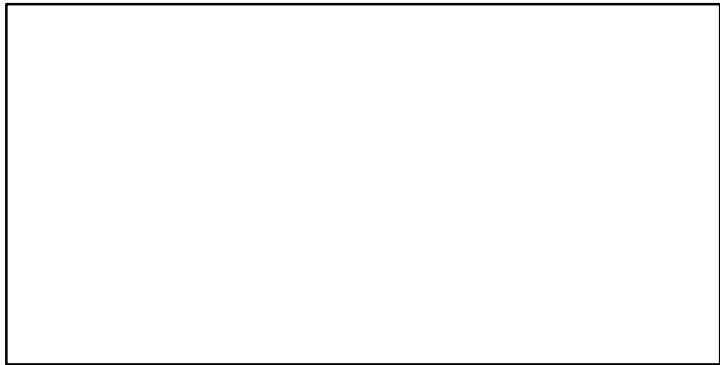
**Production\***



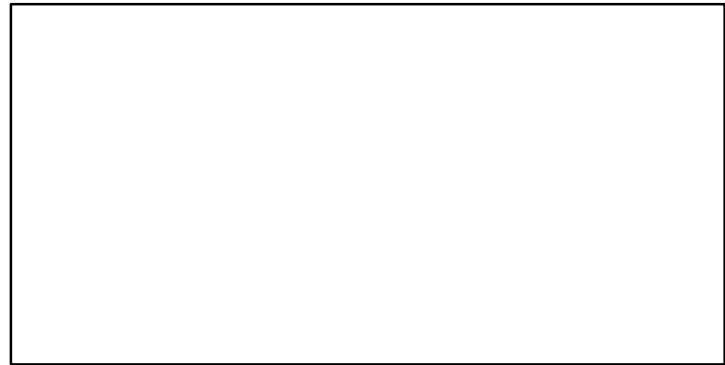
◆ Start Year ♦ End Year \* No Data

**White hake St. Pierre Bank [WHAKE3Ps]**

**TB\***



**SSB\***



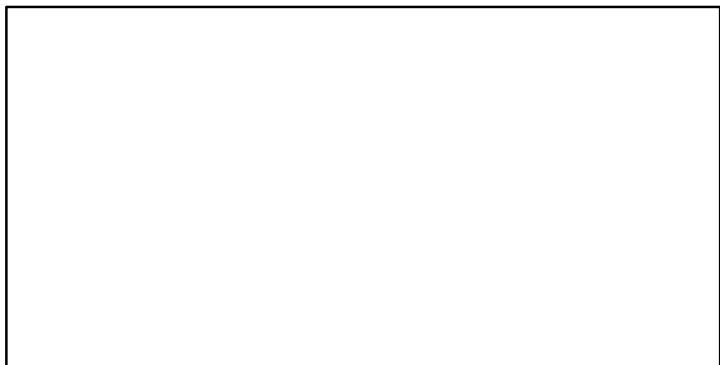
**TN \***



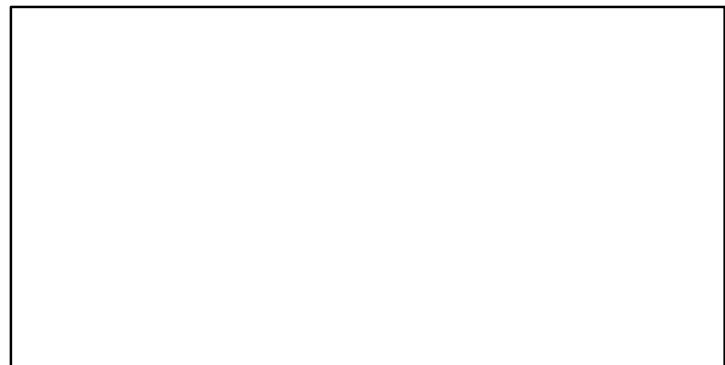
**F\***



**ER\***



**Recruits\***

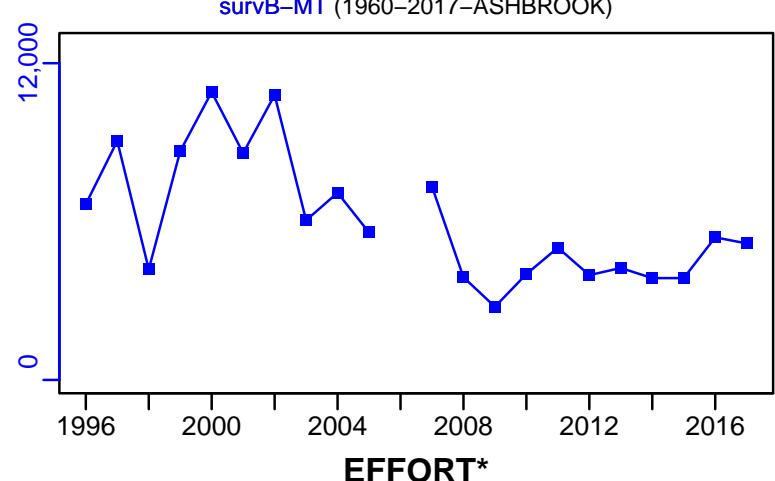
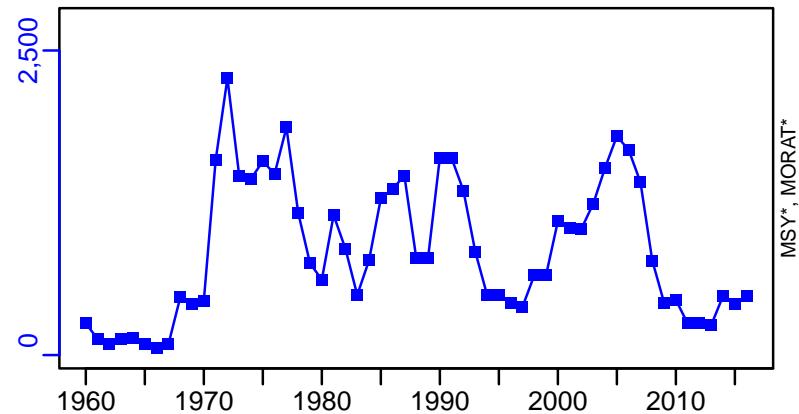


- |                      |                  |           |
|----------------------|------------------|-----------|
| ■ Listed time series | - - - Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP    | * No Data |

**White hake St. Pierre Bank [WHAKE3Ps]**

TL-MT, TC\*, RecC\* (1960–2017-ASHBROOK)

TAC\*, Cpair\*, Cadv\*



EFFORT\*

CPUE\*

CdivMSY\*

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

## White hake Northern Gulf of St. Lawrence [WHAKE4RS]

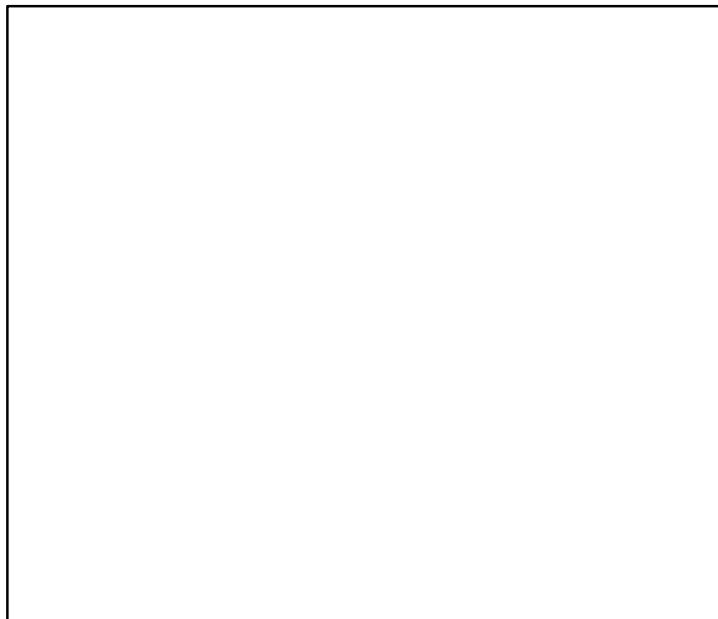
<b>Metadata</b>	
<b>Scientific Name</b>	Urophycis tenuis
<b>Current Assess ID</b>	DFO-QUE-WHAK4RS-1960-2014-OSGOOD
<b>Area</b>	Northern Gulf of St. Lawrence
<b>Management Authority</b>	Department of Fisheries and Oceans, Canada national management
<b>Assessor</b>	Department of Fisheries and Oceans - Quebec Region
<b>Asmts in RAM</b>	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>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

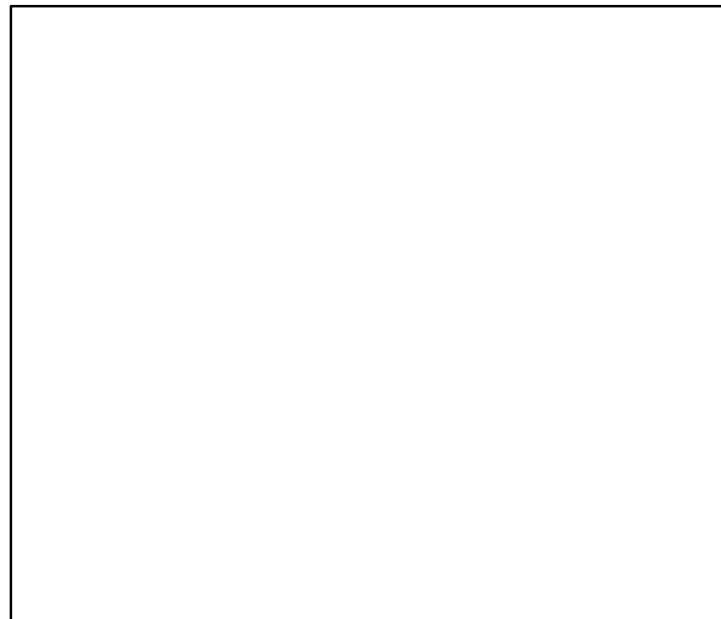
<b>Time Series</b>					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	-	-	-		
<b>TL</b>	TL-MT	2014	10		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

White hake Northern Gulf of St. Lawrence [WHAKE4RS]

**Kobe MSY\***



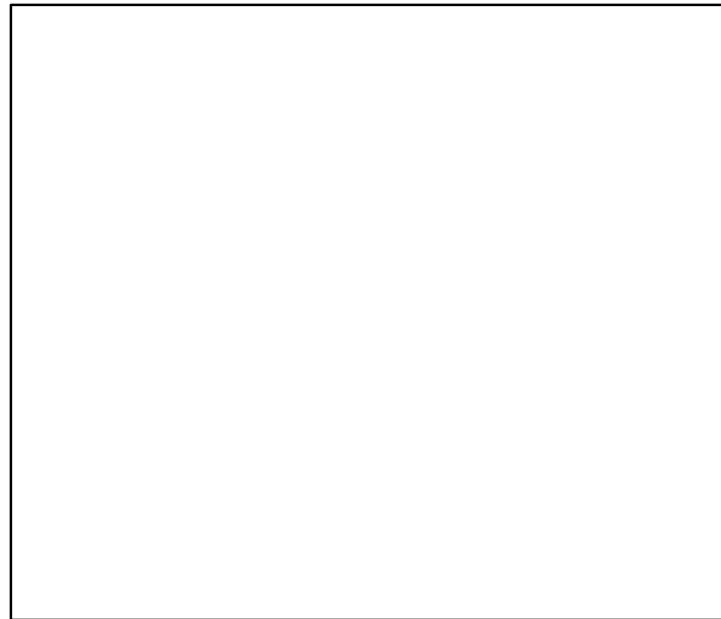
**Kobe MGT\***



**Spawner Recruit\***



**Production\***



◆ Start Year ♦ End Year \* No Data

**White hake Northern Gulf of St. Lawrence [WHAKE4RS]**

**TB\***



**SSB\***



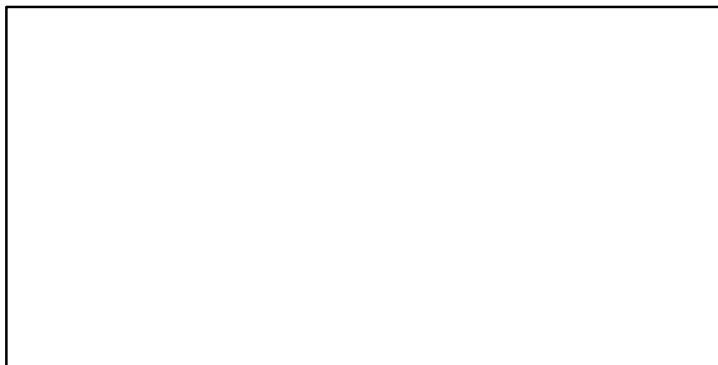
**TN \***



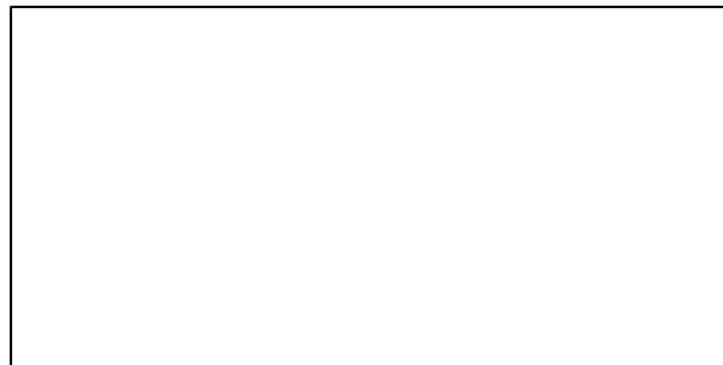
**F\***



**ER\***



**Recruits\***

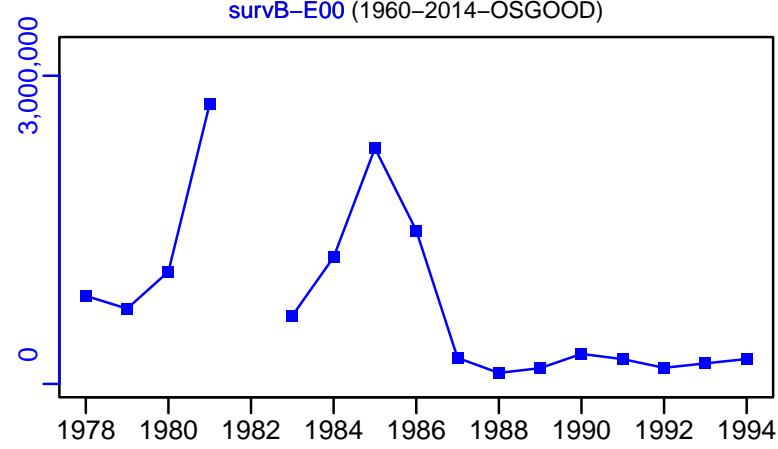
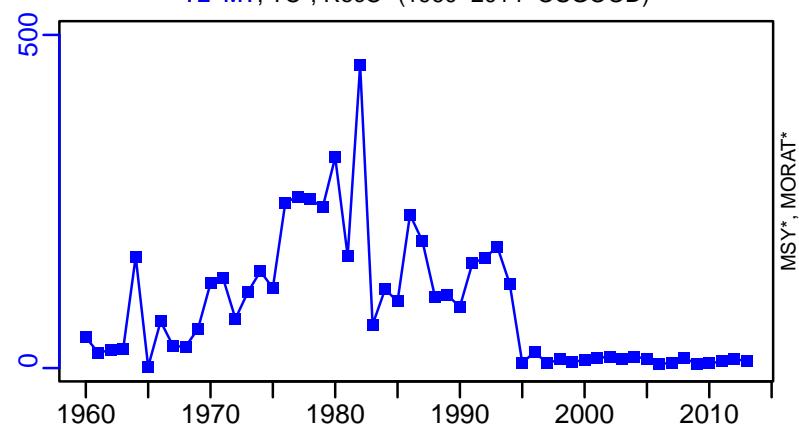


- |                      |                  |           |
|----------------------|------------------|-----------|
| ■ Listed time series | - - - Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP    | * No Data |

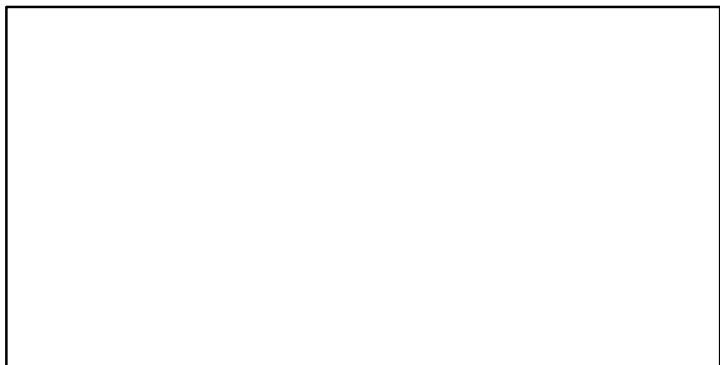
White hake Northern Gulf of St. Lawrence [WHAKE4RS]

TL-MT, TC\*, RecC\* (1960–2014–OSGOOD)

TAC\*, Cpair\*, Cadv\*



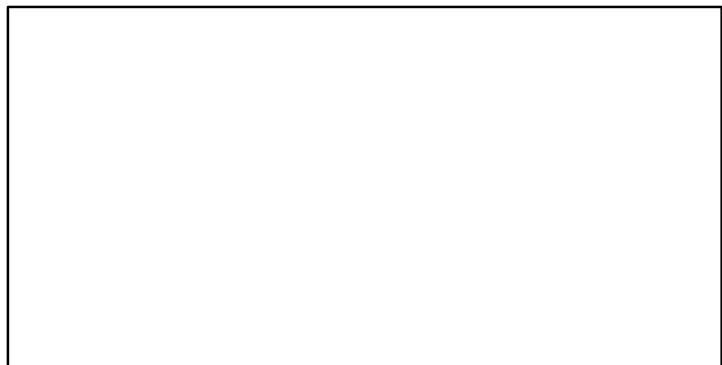
EFFORT\*



CPUE\*



CdivMSY\*



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

## White hake Southern Gulf of St. Lawrence [WHAKE4T]

<b>Metadata</b>	
<b>Scientific Name</b>	Urophycis tenuis
<b>Current Assess ID</b>	DFO-SG-WHAK4T-1960-2019-HIVELY
<b>Area</b>	Southern Gulf of St. Lawrence
<b>Management Authority</b>	Department of Fisheries and Oceans, Canada national management
<b>Assessor</b>	Department of Fisheries and Oceans - Southern Gulf Region
<b>Asmts in RAM</b>	2013, 2019

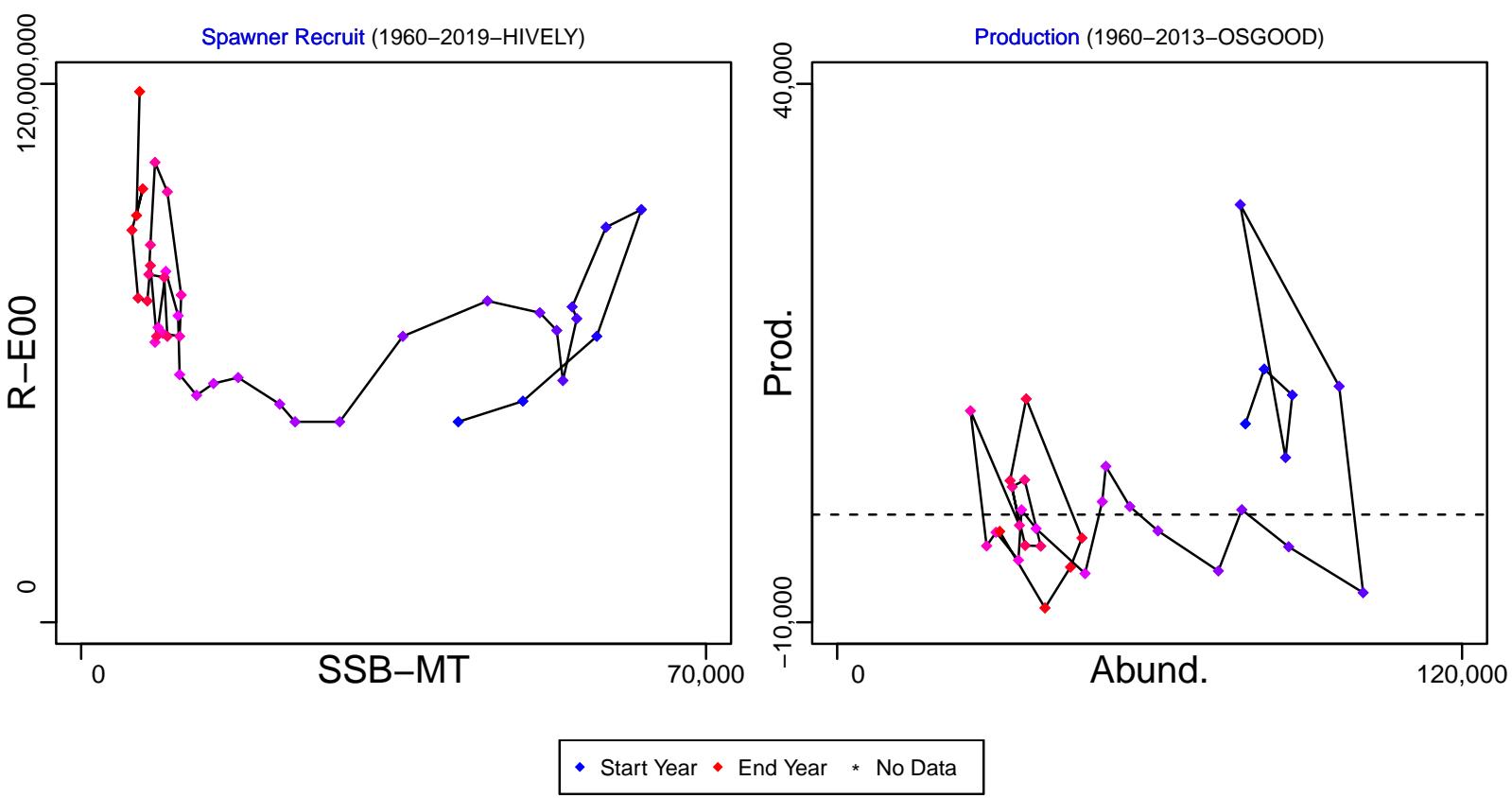
<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	M-1/yr	2013	1.078
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<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	2013	21,900	Both	1+	
<b>SSB</b>	SSB-MT	2019	7069	-	-	
<b>TN</b>	TN-E00	2019	11,783,259	-	-	
<b>R</b>	R-E00	2019	118,265,440	-	2	
<b>F</b>	F-1/yr	2019	0.029	-	-	
<b>ER</b>	ER-calc-ratio	2013	0.001	-	-	
<b>TC</b>	-	-	-			
<b>TL</b>	TL-MT	2019	700			
<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>	-	-	-			

White hake Southern Gulf of St. Lawrence [WHAKE4T]

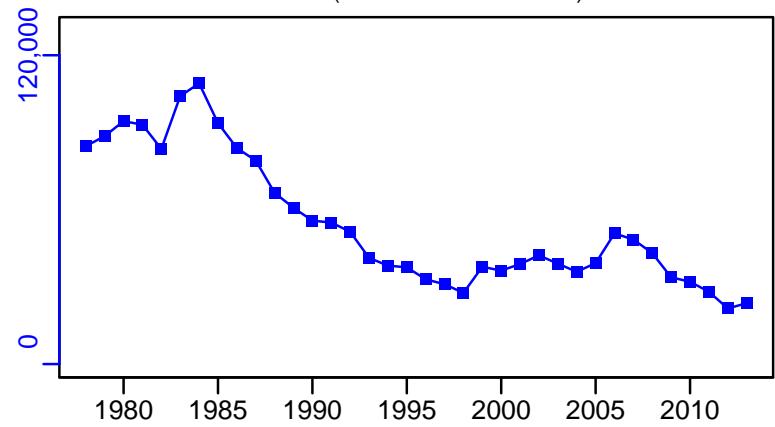
**Kobe MSY\***

**Kobe MGT\***

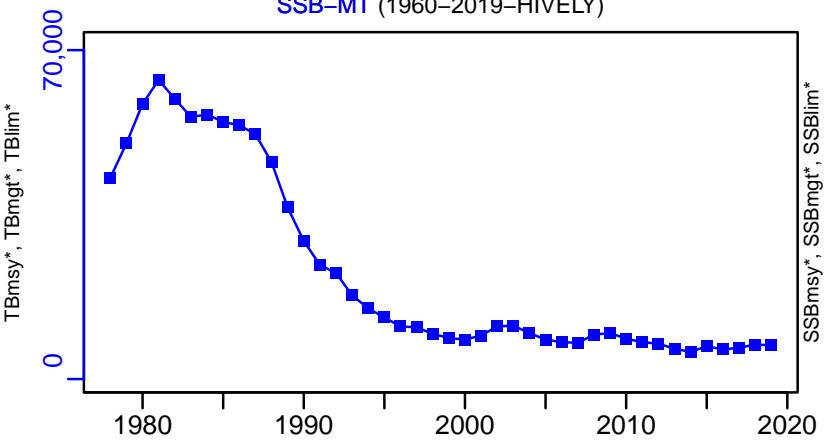


### White hake Southern Gulf of St. Lawrence [WHAKE4T]

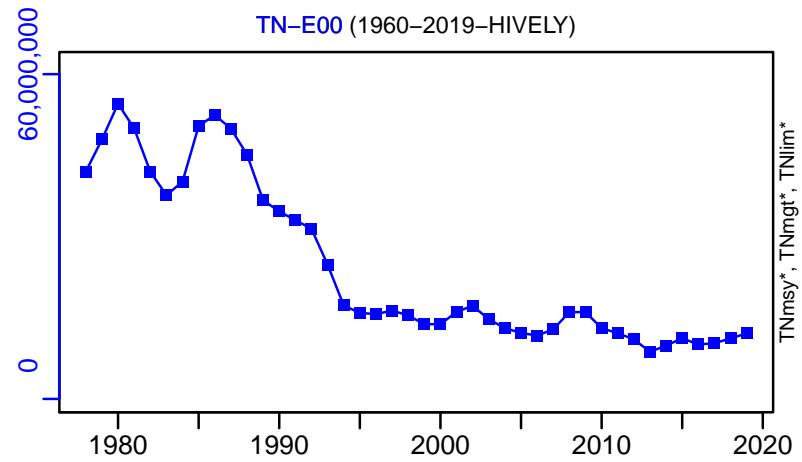
TB-MT (1960–2013–OSGOOD)



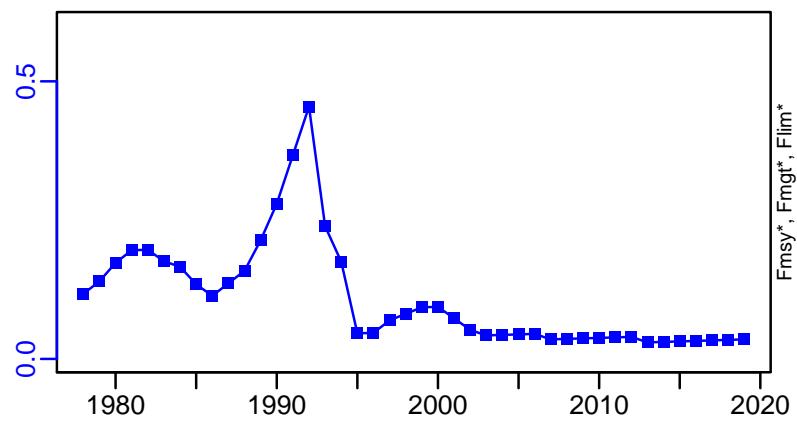
SSB-MT (1960–2019–HIVELY)



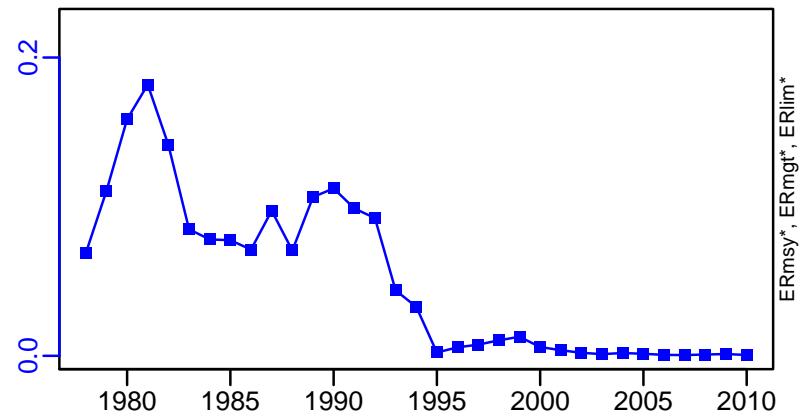
TN-E00 (1960–2019–HIVELY)



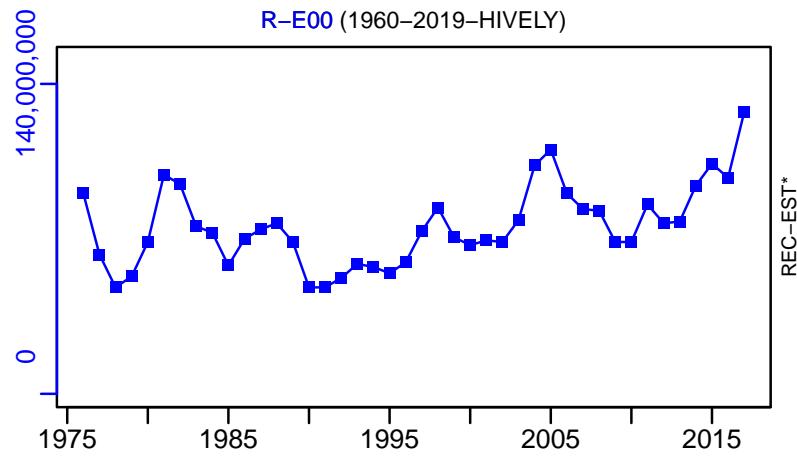
F-1/yr (1960–2019–HIVELY)



ER-calc-ratio (1960–2013–OSGOOD)



R-E00 (1960–2019–HIVELY)

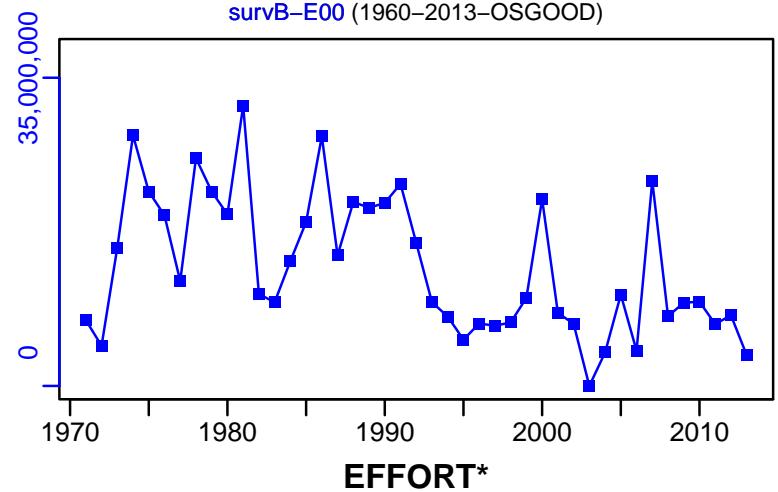
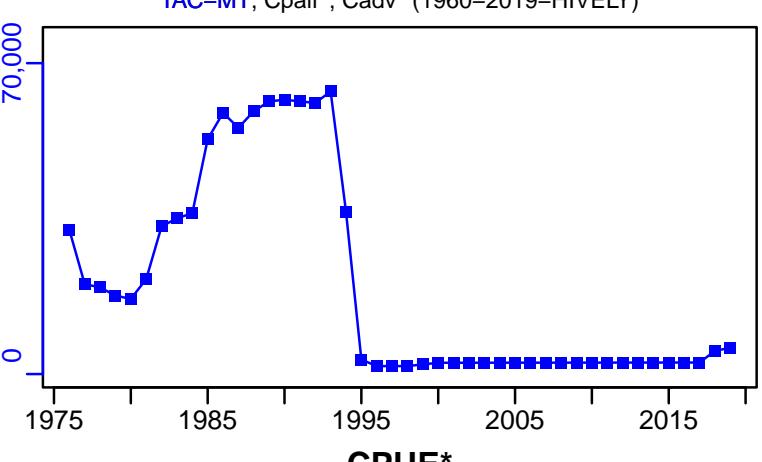
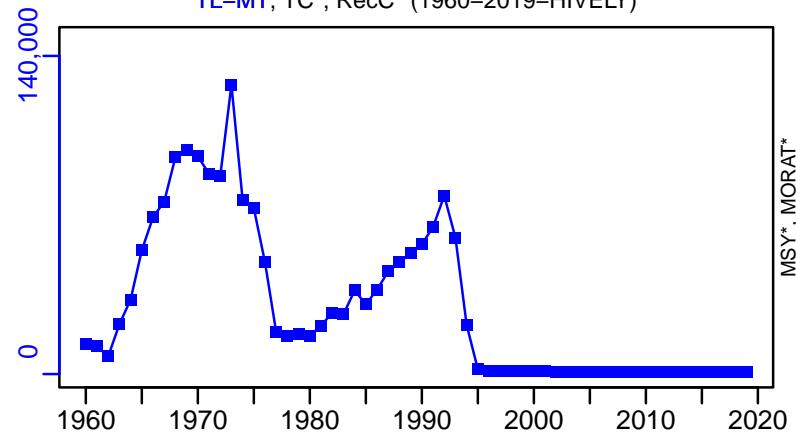


■ Listed time series	— Target BRP	— Rec-Est
— MSY-based BRP	··· Lim BRP	* No Data

### White hake Southern Gulf of St. Lawrence [WHAKE4T]

TL-MT, TC\*, RecC\* (1960–2019–HIVELY)

TAC-MT, Cpair\*, Cadv\* (1960–2019–HIVELY)



**EFFORT\***

**CdivMSY\***

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

## White hake Scotian Shelf, Bay of Fundy and Georges Bank [WHAKE4VWX5]

<b>Metadata</b>	
<b>Scientific Name</b>	Urophycis tenuis
<b>Current Assess ID</b>	DFO-MAR-WHAK4VWX5-1964-2005-PREFONTAINE
<b>Area</b>	Scotian Shelf, Bay of Fundy and Georges Bank
<b>Management Authority</b>	Department of Fisheries and Oceans, Canada national management
<b>Assessor</b>	Department of Fisheries and Oceans - Maritimes Region
<b>Asmts in RAM</b>	2005

<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>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<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>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	-	-	-		
<b>TL</b>	TL-MT	2005	2060		
<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\***

◆ Start Year ♦ End Year \* No Data

**White hake Scotian Shelf, Bay of Fundy and Georges Bank [WHAKE4VWX5]**

**TB\***



**SSB\***



**TN \***



**F\***



**ER\***



**Recruits\***

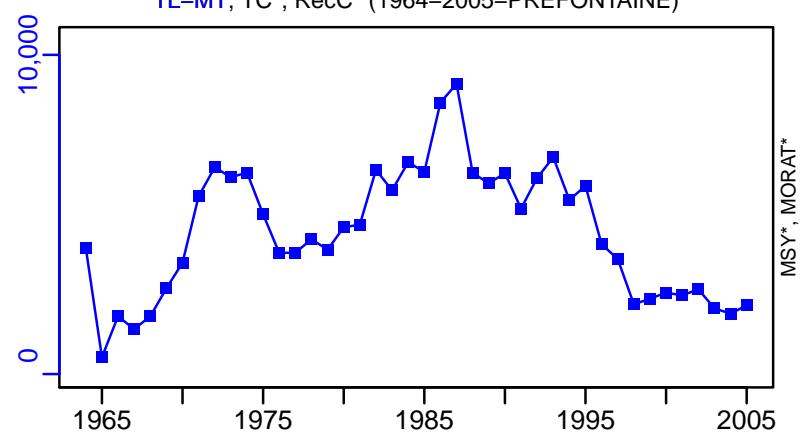


- |       |                    |       |            |   |         |
|-------|--------------------|-------|------------|---|---------|
| ■     | Listed time series | - - - | Target BRP | — | Rec-Est |
| - - - | MSY-based BRP      | - - - | Lim BRP    | * | No Data |

**White hake Scotian Shelf, Bay of Fundy and Georges Bank [WHAKE4VWX5]**

TL-MT, TC\*, RecC\* (1964–2005—PREFONTAINE)

TAC\*, Cpair\*, Cadv\*



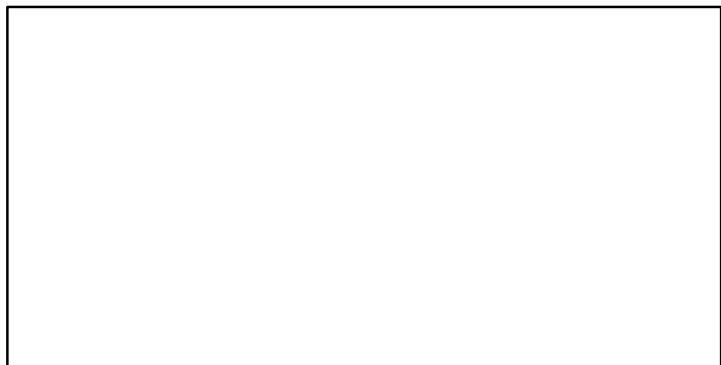
**survB\***



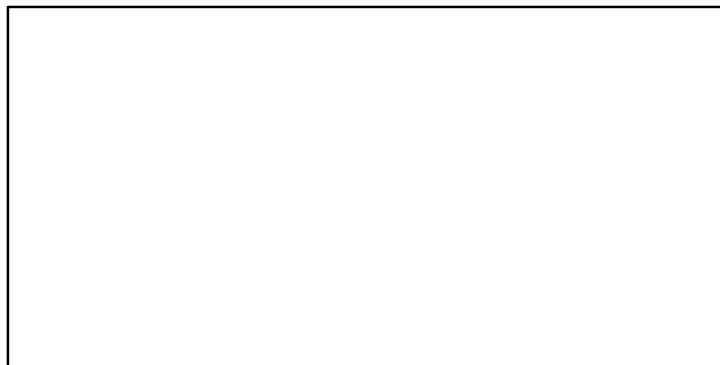
**CPUE\***



**EFFORT\***



**CdivMSY\***



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

## White hake Gulf of Maine / Georges Bank [WHAKEGBGOM]

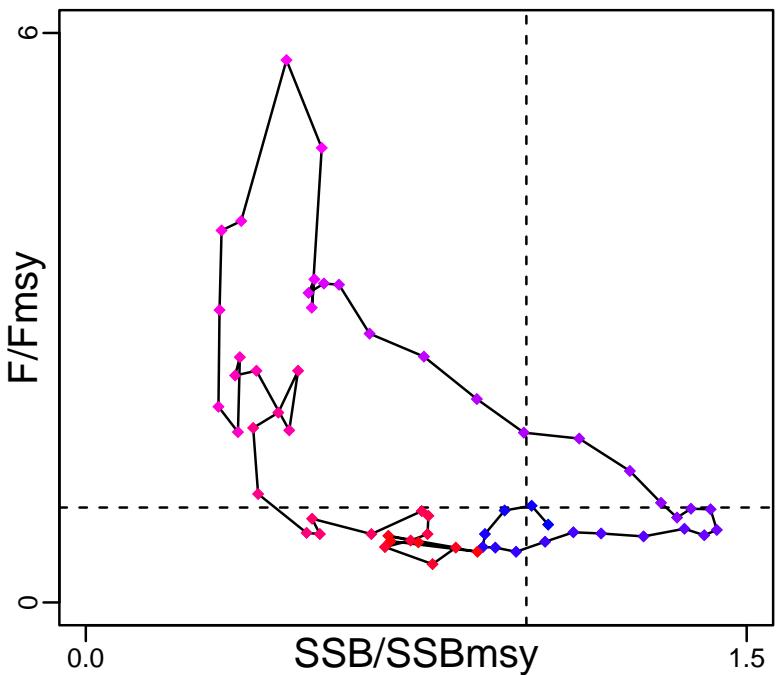
<b>Metadata</b>	
<b>Scientific Name</b>	Urophycis tenuis
<b>Current Assess ID</b>	NEFSC-WHAKEGBGOM-1962-2022-SISIMP2024
<b>Area</b>	Gulf of Maine / Georges Bank
<b>Management Authority</b>	National Marine Fisheries Service, US national management
<b>Assessor</b>	Northeast Fisheries Science Center
<b>Asmts in RAM</b>	2011, 2016, 2018, 2022, 2014

<b>Reference Points</b>			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	SSBmsy-MT	2022	28,191
<b>Fmsy</b>	Fmsy-1/yr	2022	0.161
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-MT	2022	4186
<b>M</b>	M-1/yr	2011	0.2
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2022	14,095
<b>Flim</b>	Flim-1/yr	2018	0.168
<b>ERlim</b>	-	-	-

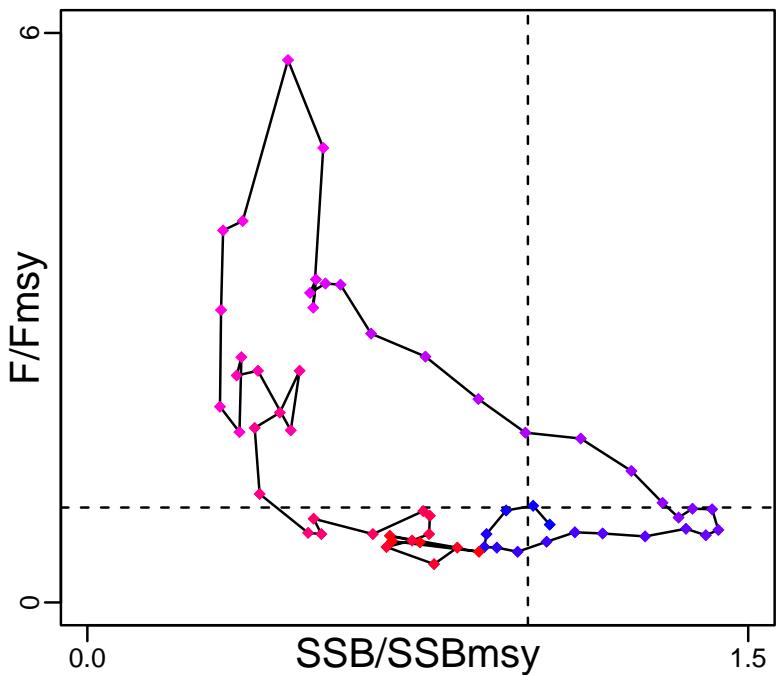
<b>Time Series</b>					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2011	31,200	-	-
<b>SSB</b>	SSB-MT	2022	17,978	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2022	1740	-	1
<b>F</b>	F-1/yr	2022	0.104	-	-
<b>ER</b>	ER-calc-ratio	2011	0.093	-	-
<b>TC</b>	TC-MT	2022	1869		
<b>TL</b>	-	-	-		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2022	0.638		
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2022	0.646		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

White hake Gulf of Maine / Georges Bank [WHAKEGBGOM]

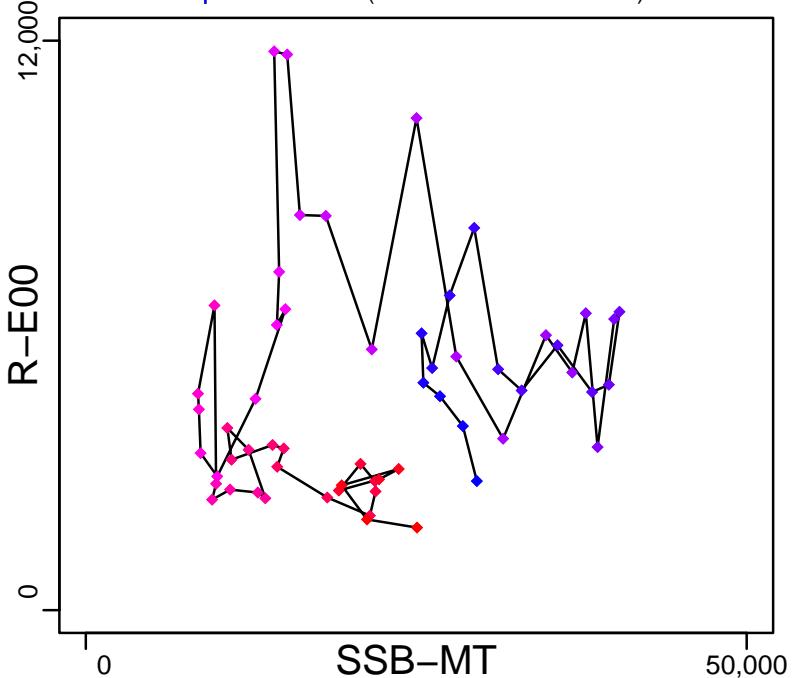
Kobe MSYpref (1962–2022–SISIMP2024)



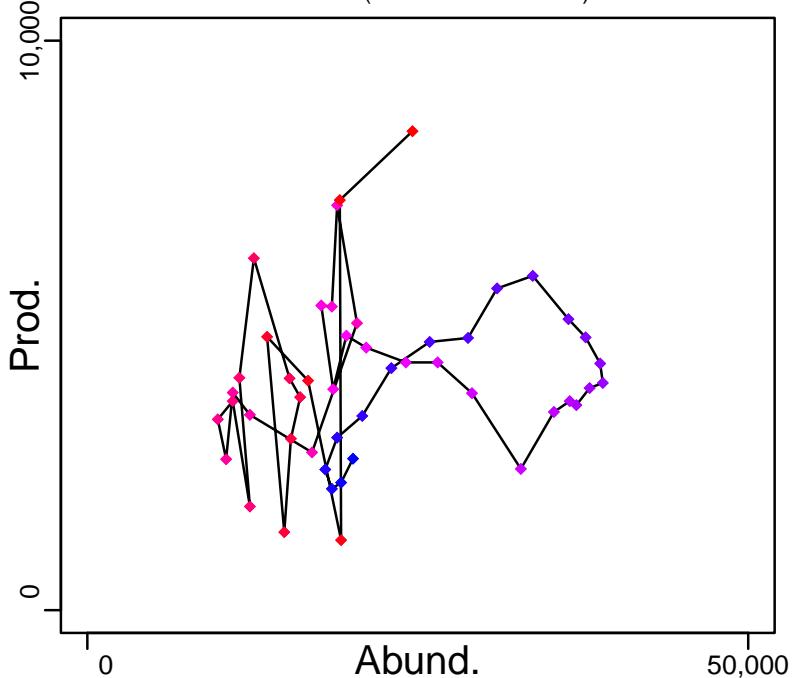
Kobe MGTpref (1962–2022–SISIMP2024)



Spawner Recruit (1962–2022–SISIMP2024)



Production (1962–2011–HIVELY)

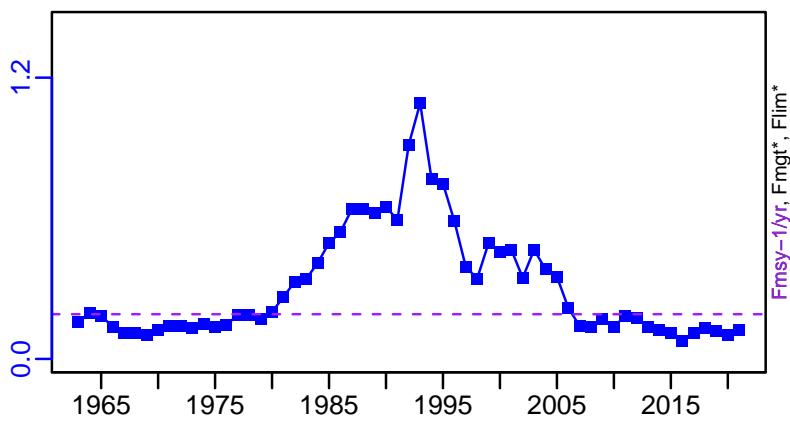
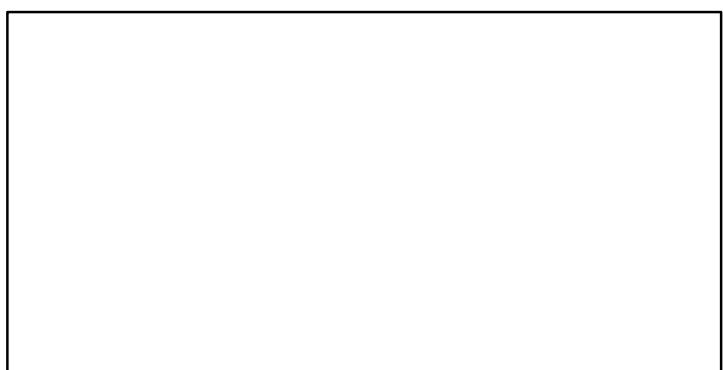
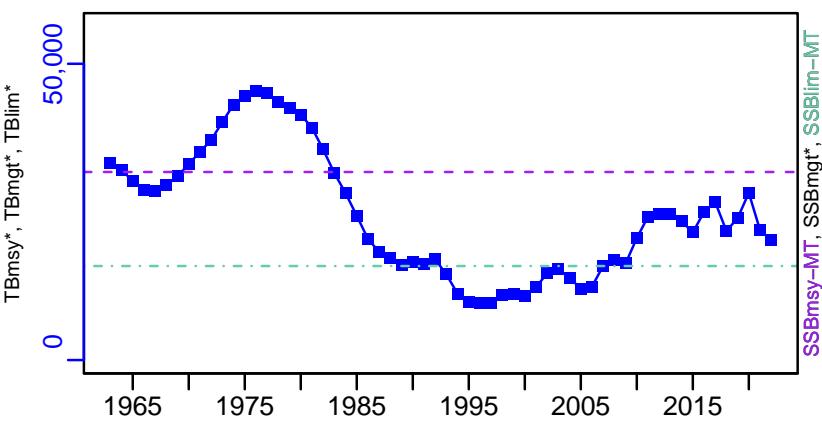
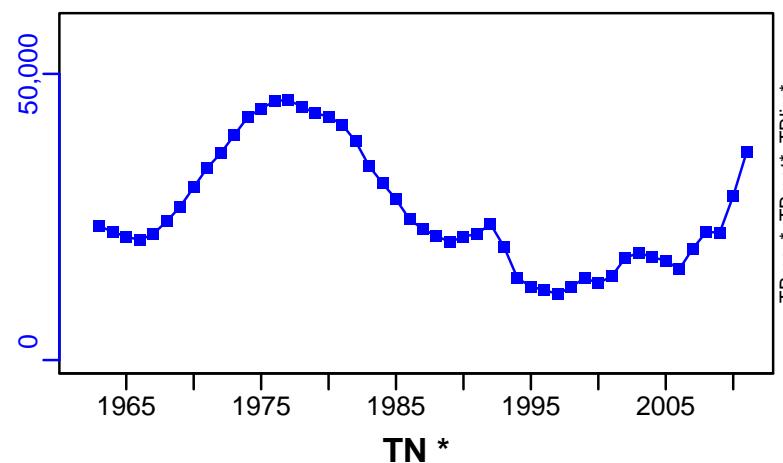


◆ Start Year   ◆ End Year   \* No Data

**White hake Gulf of Maine / Georges Bank [WAKEGBGOM]**

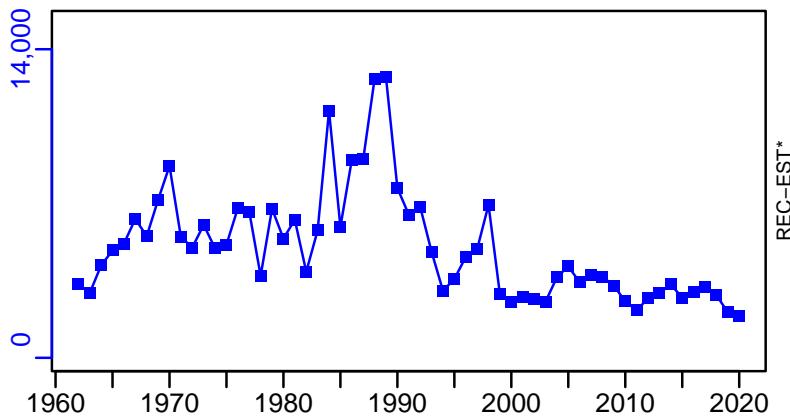
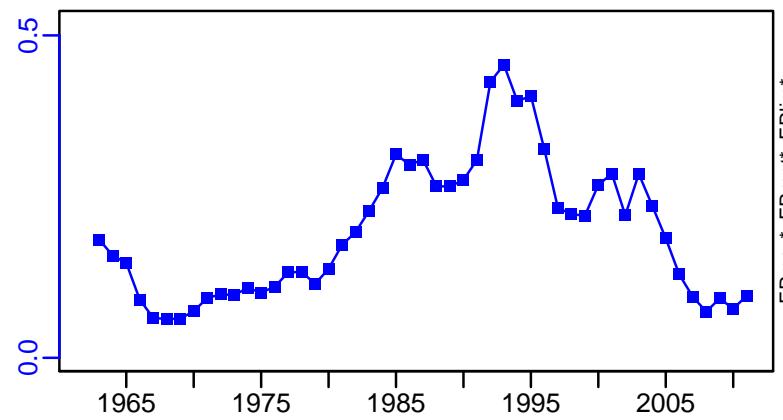
**TB-MT (1962–2011-HIVELY)**

**SSB-MT (1962–2022-SISIMP2024)**



**ER-calc-ratio (1962–2011-HIVELY)**

**R-E00 (1962–2022-SISIMP2024)**

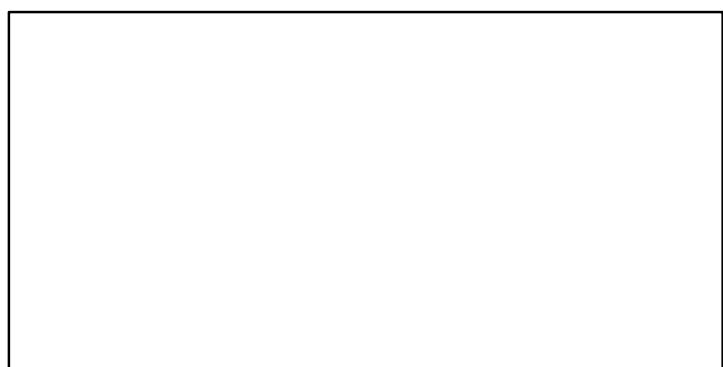
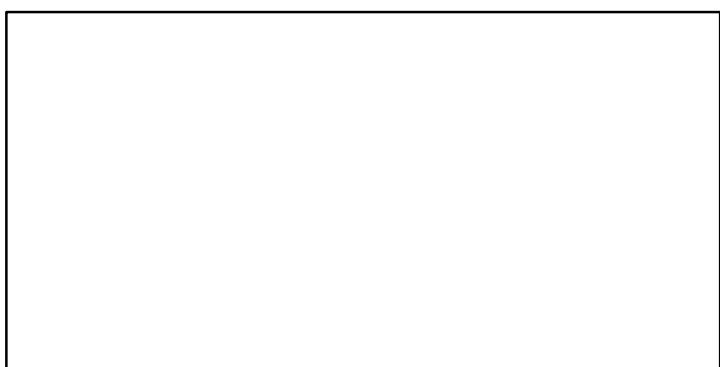
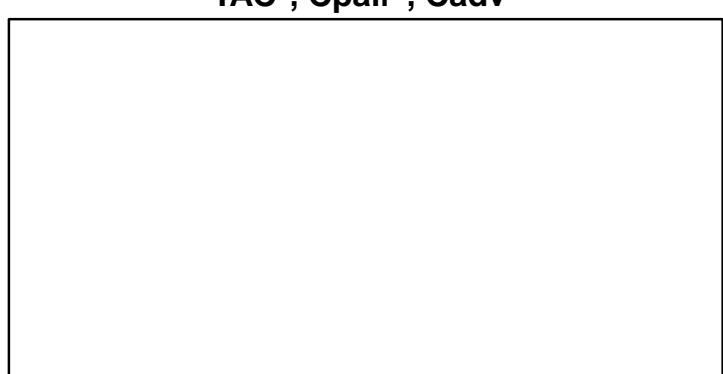
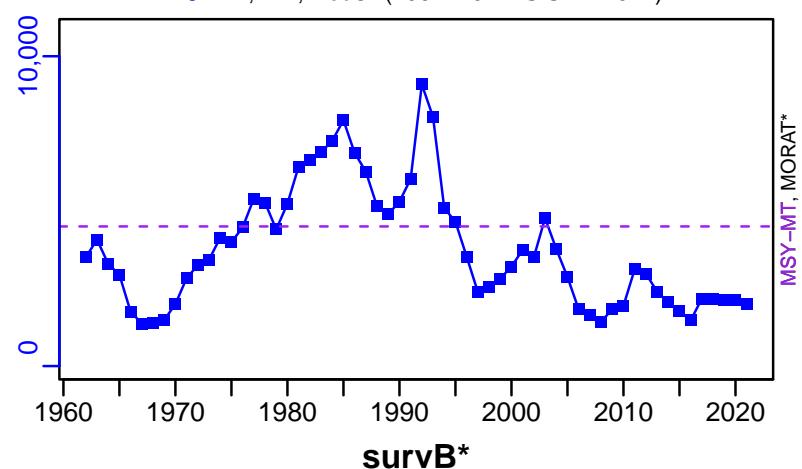


■ Listed time series	— Target BRP	— Rec-Est
— MSY-based BRP	--- Lim BRP	* No Data

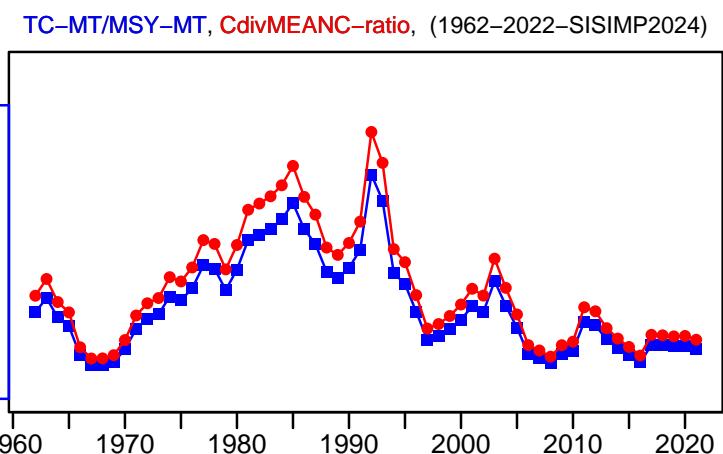
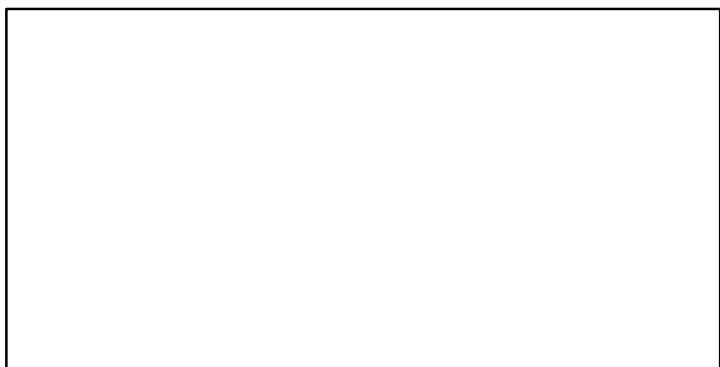
White hake Gulf of Maine / Georges Bank [WHAKEGBGOM]

TC-MT, TL\*, RecC\* (1962–2022–SISIMP2024)

TAC\*, Cpair\*, Cadv\*



**EFFORT\***



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

## Whiting Kattegat and Skagerrak [WHITIIIa]

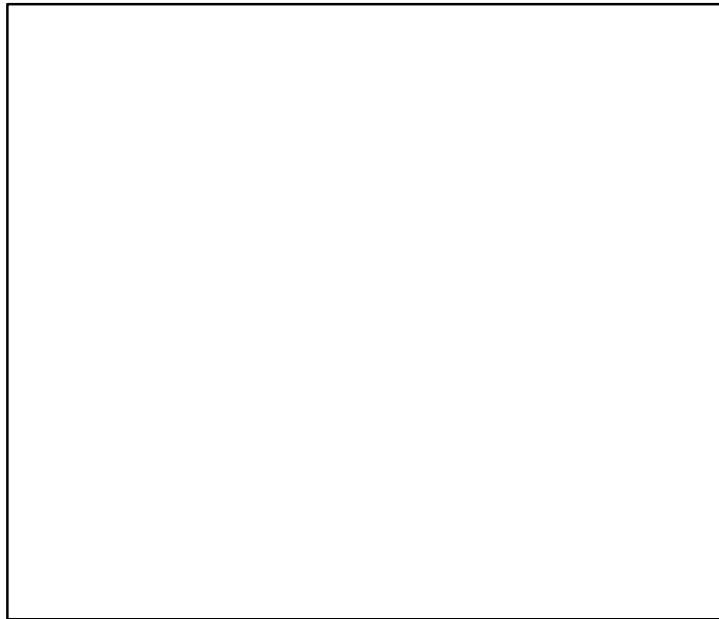
<b>Metadata</b>	
<b>Scientific Name</b>	Merlangius merlangus
<b>Current Assess ID</b>	WGNSSK-WHITIIIa-1975-2019-ICESIMP2021-2
<b>Area</b>	Kattegat and Skagerrak
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak
<b>Asmts in RAM</b>	2014, 2016, 2018, 2019

<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>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

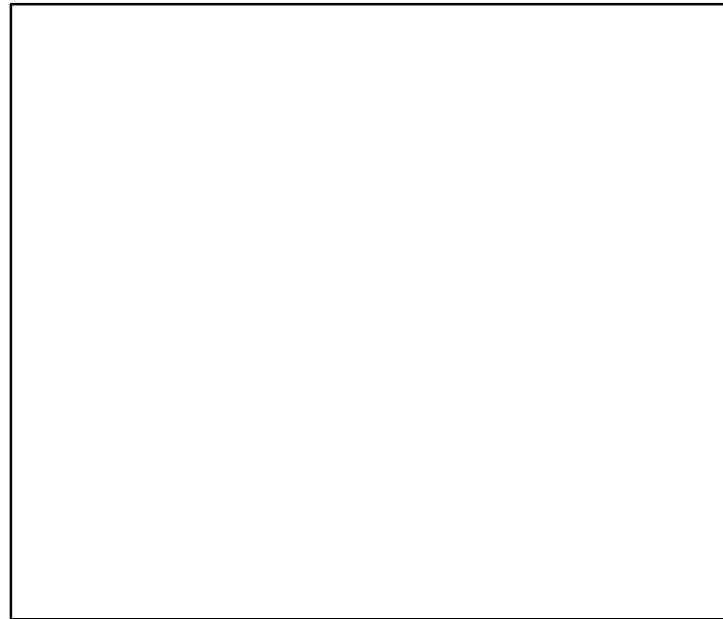
<b>Time Series</b>					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2019	806		
<b>TL</b>	TL-MT	2019	179		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

**Whiting Kattegat and Skagerrak [WHITIIa]**

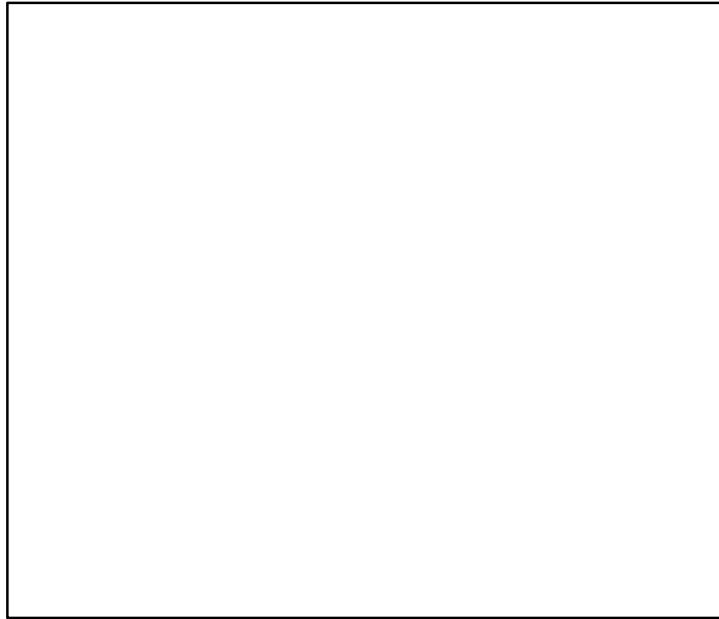
**Kobe MSY\***



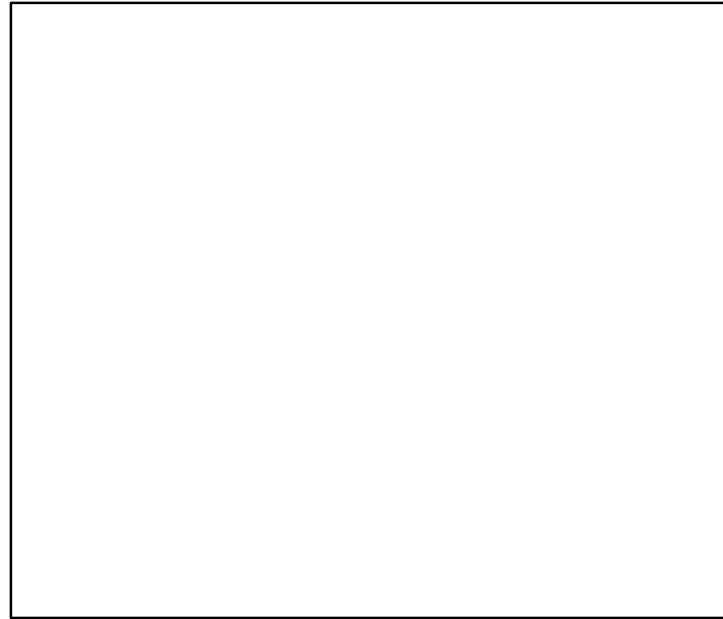
**Kobe MGT\***



**Spawner Recruit\***



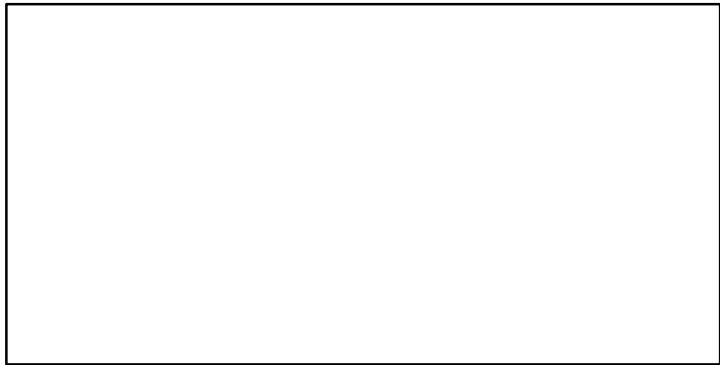
**Production\***



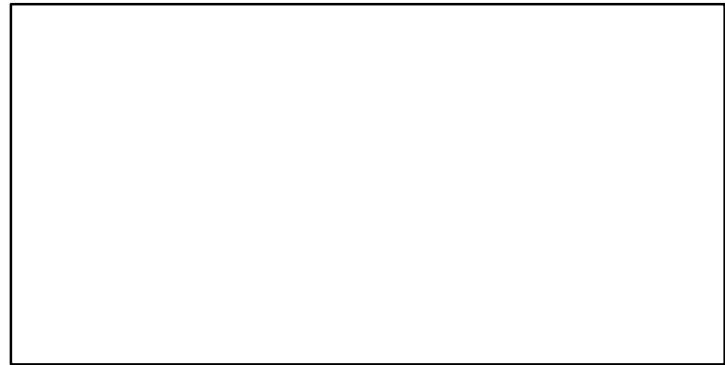
◆ Start Year ♦ End Year \* No Data

**Whiting Kattegat and Skagerrak [WHITIIa]**

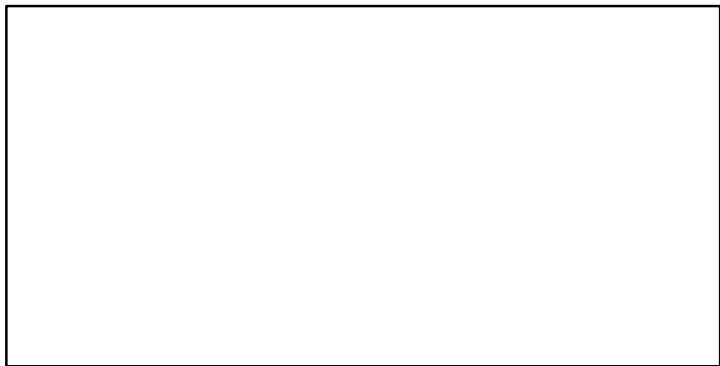
**TB\***



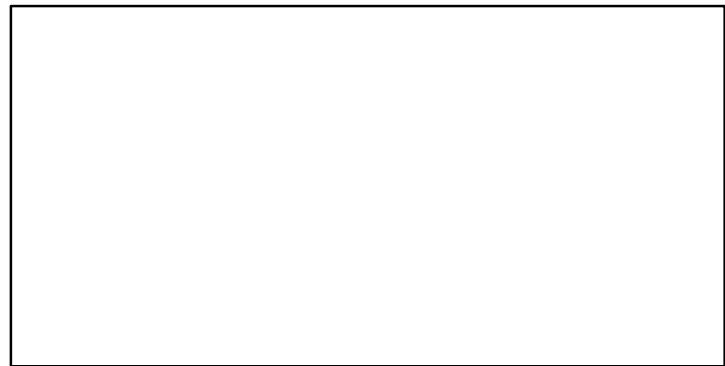
**SSB\***



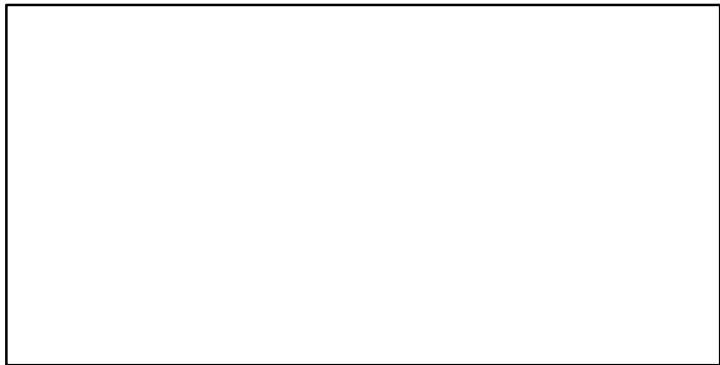
**TN \***



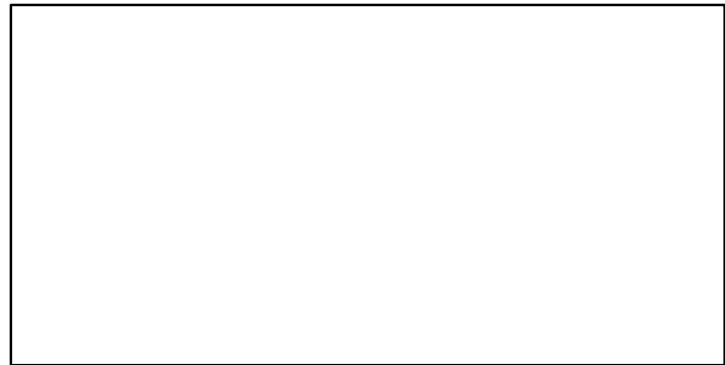
**F\***



**ER\***



**Recruits\***

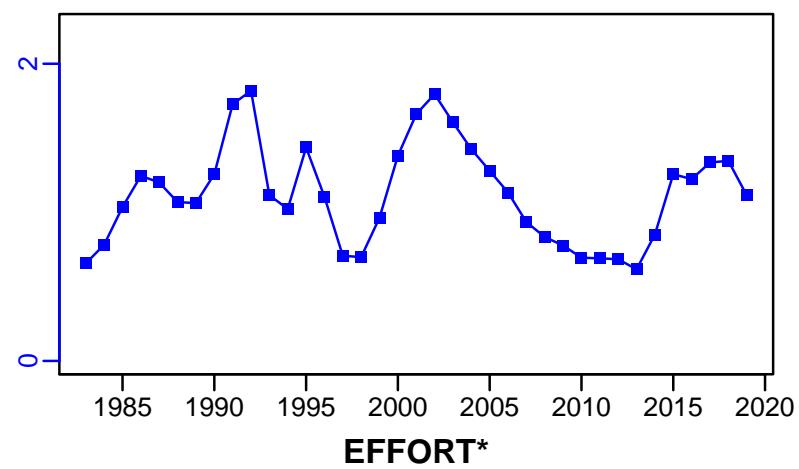
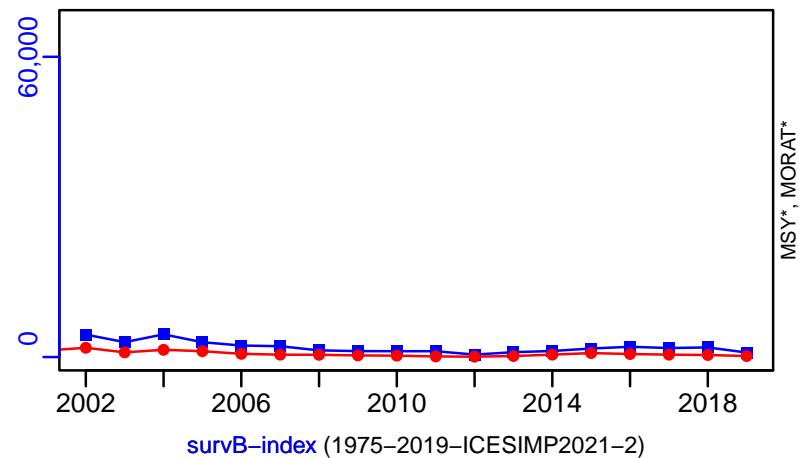


- |                      |                  |           |
|----------------------|------------------|-----------|
| ■ Listed time series | - - - Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP    | * No Data |

**Whiting Kattegat and Skagerrak [WHITIIa]**

TC-MT, TL-MT, RecC\* (1975–2019–ICESIMP2021–2)

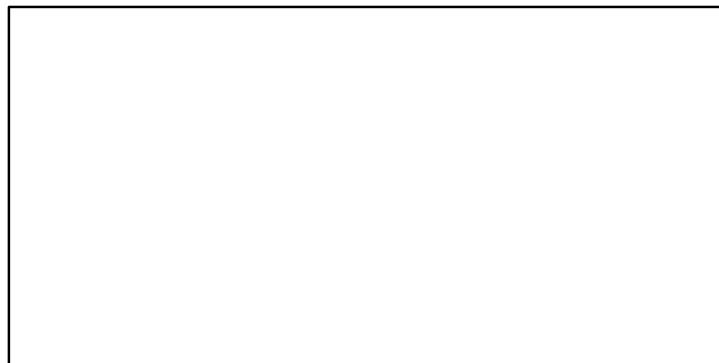
TAC\*, Cpair\*, Cadv\*



CPUE\*



CdivMSY\*



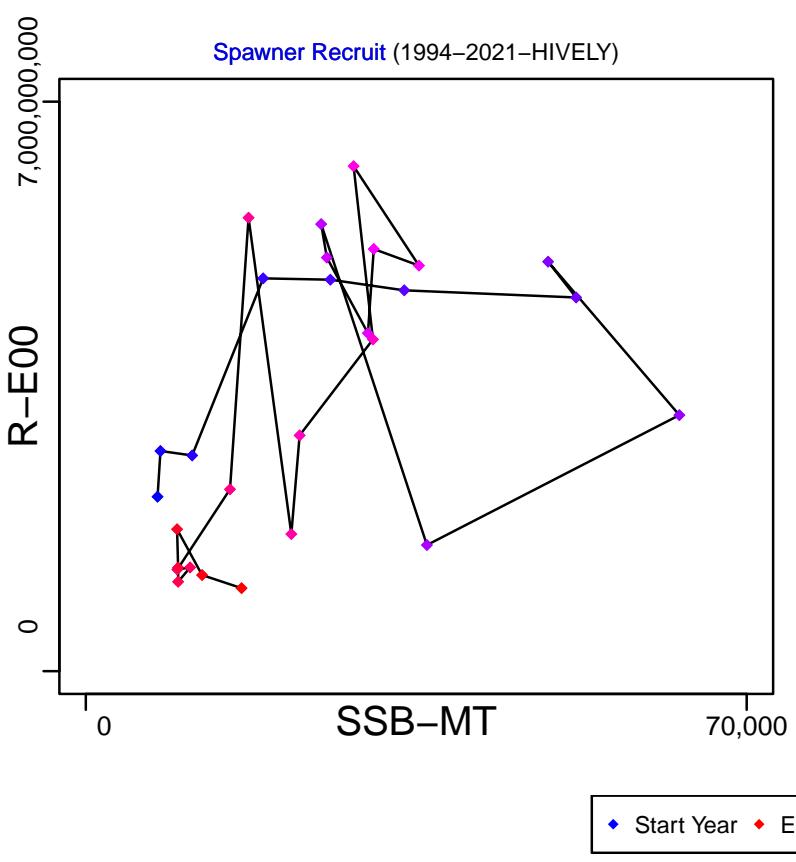
- |                          |                          |           |
|--------------------------|--------------------------|-----------|
| ■ 1st listed time series | ▲ 3rd listed time series | — MORAT   |
| ● 2nd listed time series | - - - MSY                | * No Data |

## Whiting Black Sea [WHITMEDGSA29]

<b>Metadata</b>	
<b>Scientific Name</b>	Merlangius merlangus
<b>Current Assess ID</b>	SGSABS-WHITMEDGSA29-1994-2021-HIVELY
<b>Area</b>	Black Sea
<b>Management Authority</b>	General Fisheries Council for the Mediterranean, DG MARE, and national states
<b>Assessor</b>	Subregional Group on Stock Assessment for the Black Sea
<b>Asmts in RAM</b>	2021, 2011, 2014, 2016

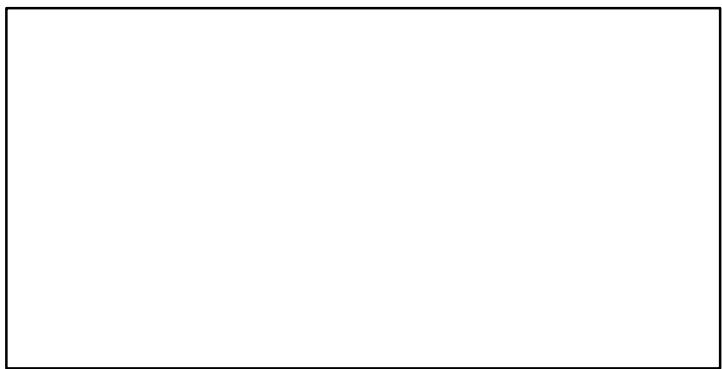
<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2016	0.63
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	Fmgt-1/yr	2021	0.15
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	M-1/yr	2011	0.46
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<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>	-	-	-	-	-
<b>SSB</b>	SSB-MT	2021	16,497	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2021	1,020,114,000	-	0
<b>F</b>	F-1/yr	2021	1.685	-	-
<b>ER</b>	ER-ratio	2011	0.146	-	-
<b>TC</b>	TC-MT	2016	11,078		
<b>TL</b>	TL-MT	2021	10,039		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2016	2.317		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2021	11.234		
<b>ER/ERmgt</b>	-	-	-		

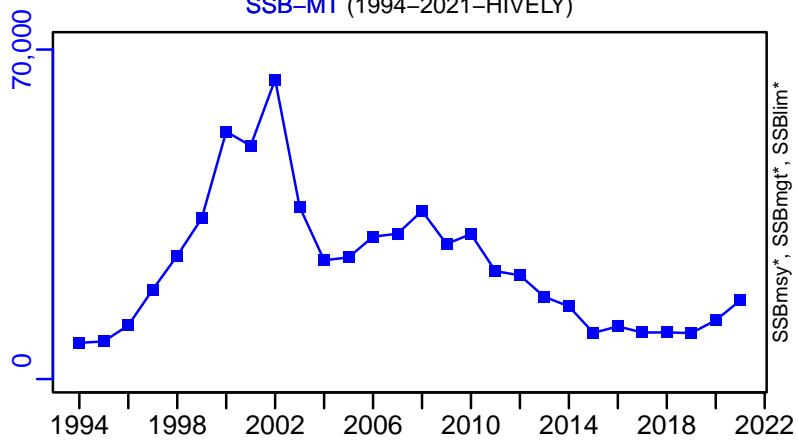
**Kobe MSY\*****Kobe MGT\***

Whiting Black Sea [WHITMEDGSA29]

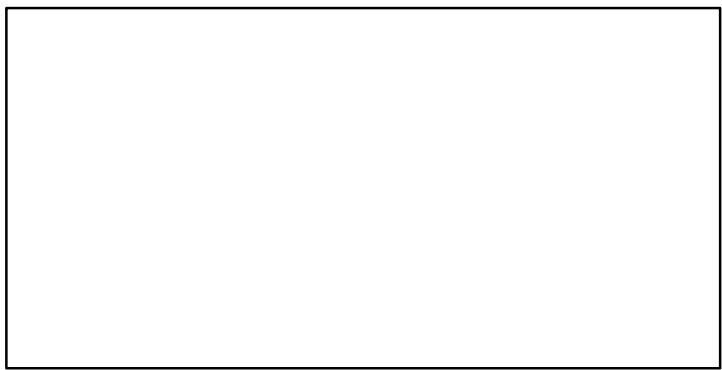
**TB\***



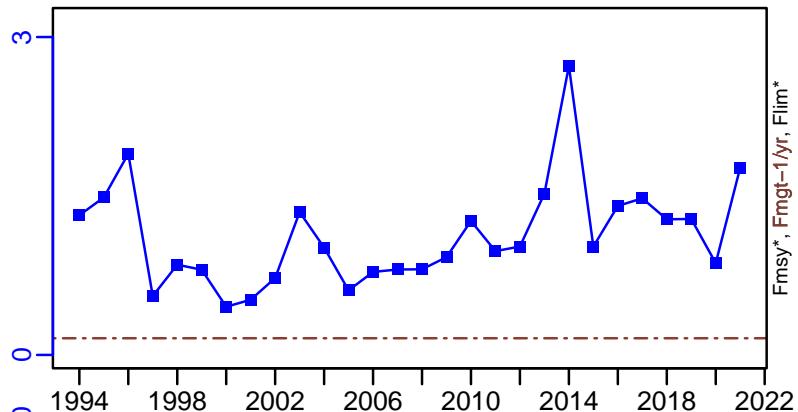
**SSB-MT (1994–2021–HIVELY)**



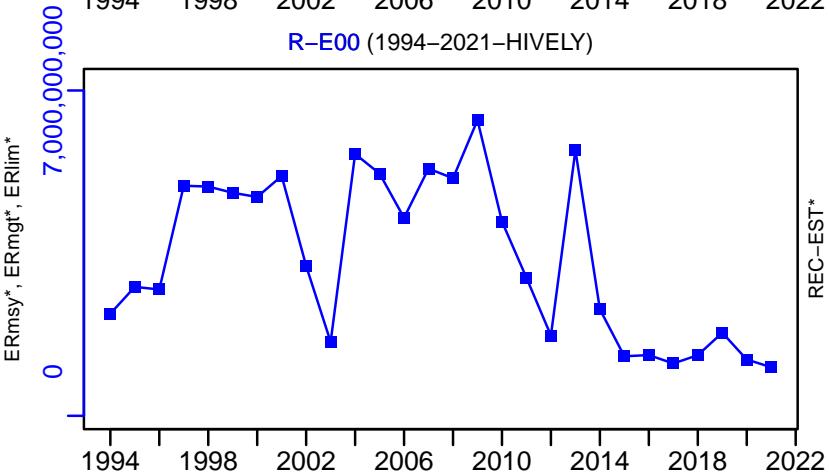
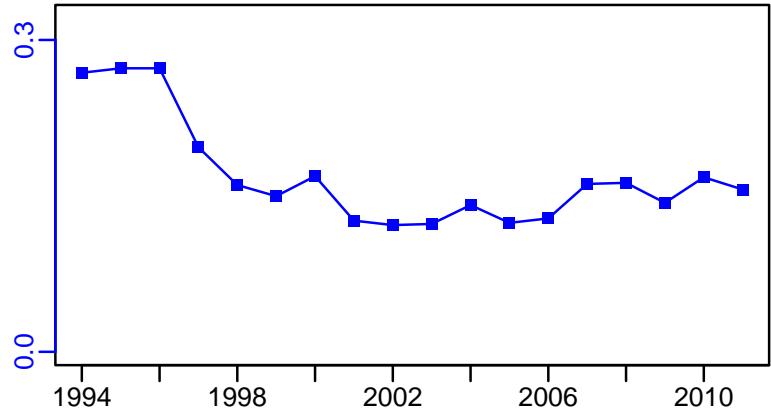
**TN \***



**F-1/yr (1994–2021–HIVELY)**



**ER-ratio (1994–2011–HIVELY)**

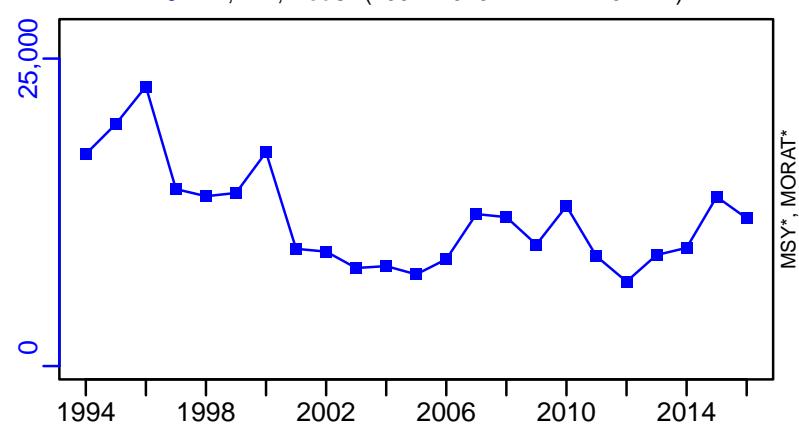


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	--- Lim BRP	* No Data

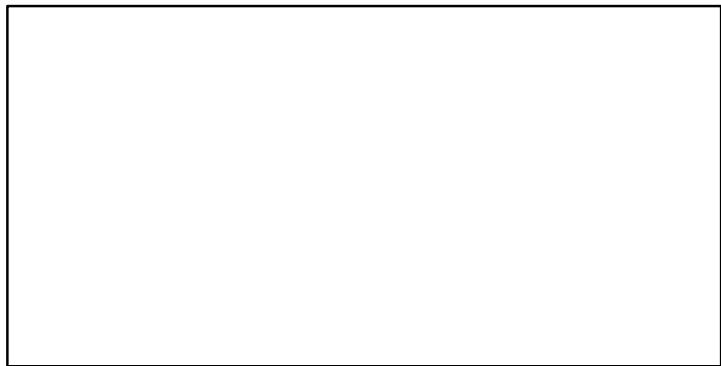
Whiting Black Sea [WHITMEDGSA29]

TC-MT, TL\*, RecC\* (1994–2016–MEDIMP2021-2)

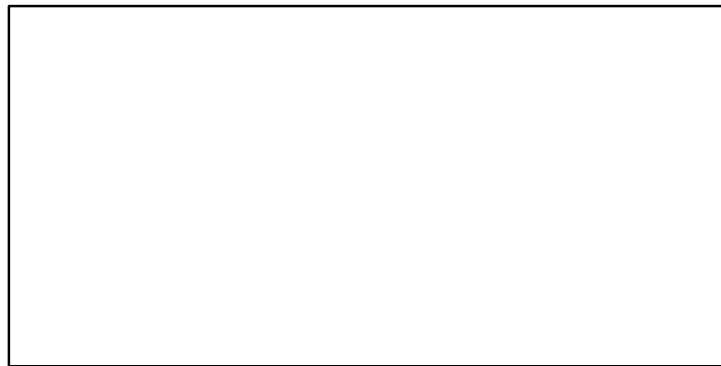
TAC\*, Cpair\*, Cadv\*



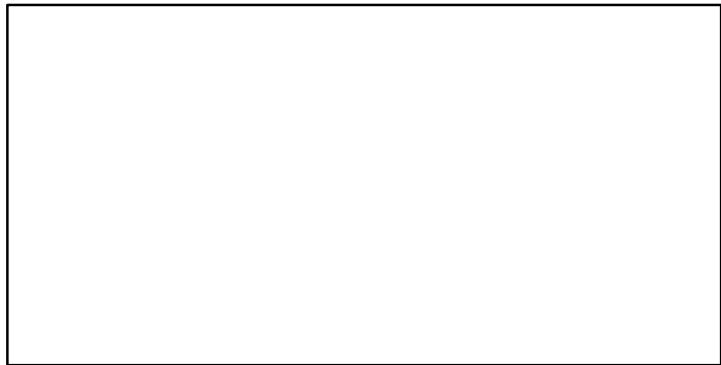
survB\*



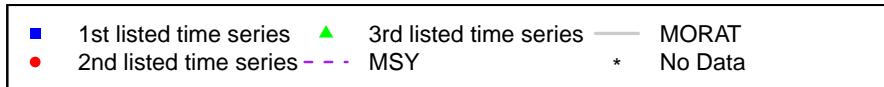
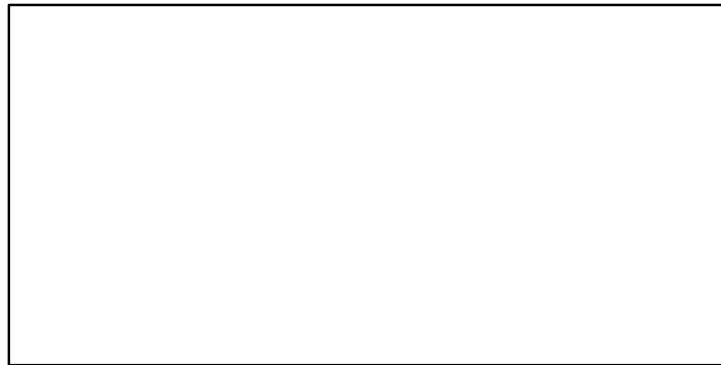
CPUE\*



EFFORT\*



CdivMSY\*

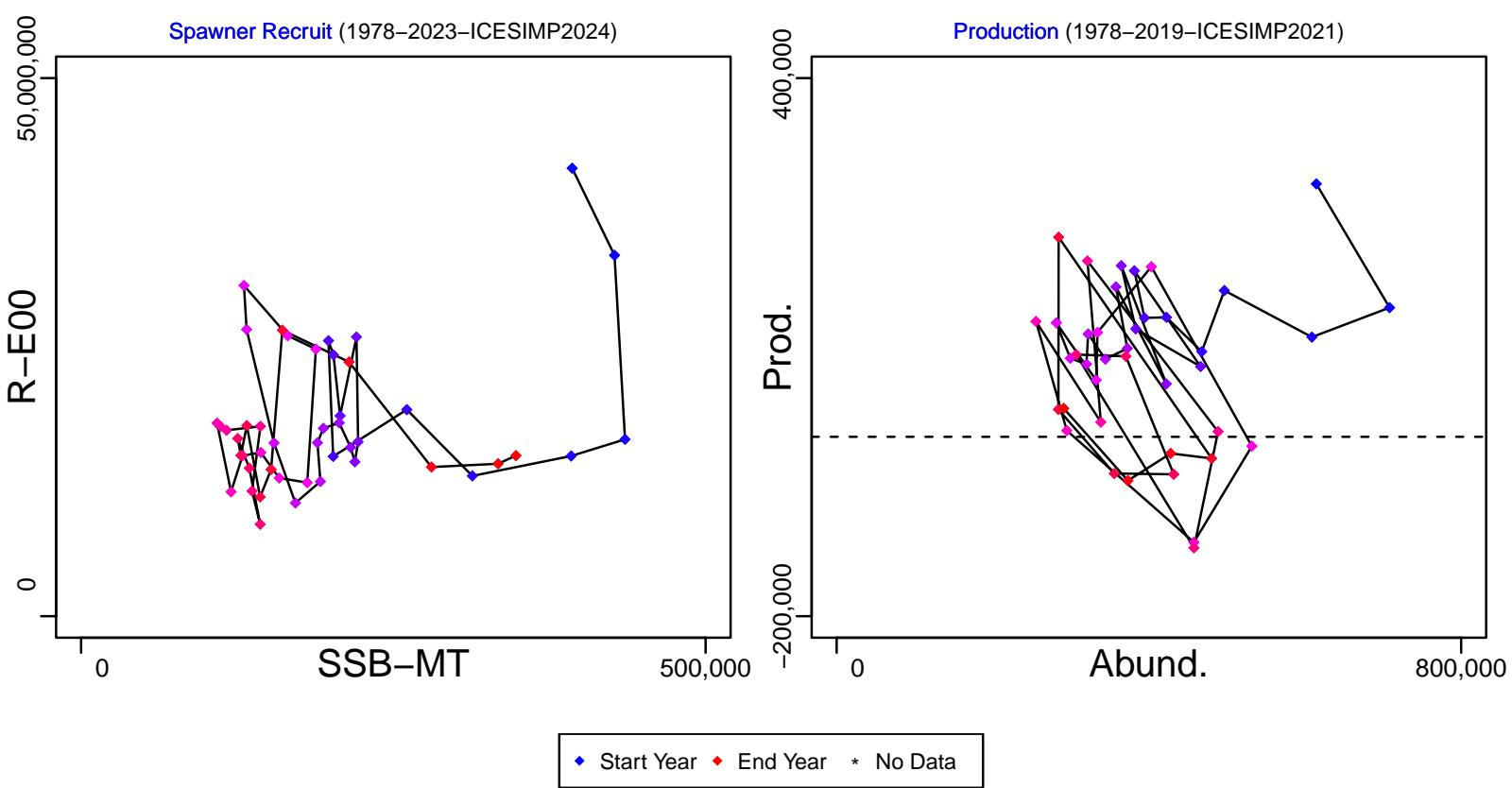


## Whiting ICES 4-7d [WHITNS-VIId]

<b>Metadata</b>	
<b>Scientific Name</b>	Merlangius merlangus
<b>Current Assess ID</b>	WGNSSK-WHITNS-VIId-1978-2023-ICESIMP2024
<b>Area</b>	ICES 4-7d
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak
<b>Asmts in RAM</b>	2018, 2019, 2020, 2021, 2023, 2012, 2013, 2014, 2015, 2016, 2017

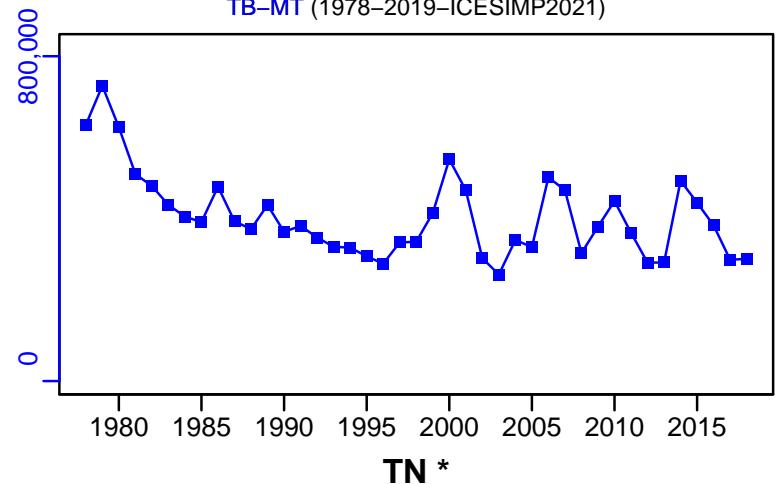
<b>Reference Points</b>			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2023	0.393
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	Fmgt-1/yr	2023	0.393
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2023	107,146
<b>Flim</b>	Flim-1/yr	2023	0.935
<b>ERlim</b>	-	-	-

<b>Time Series</b>					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2019	293,190	-	-
<b>SSB</b>	SSB-MT	2023	348,137	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2023	14,923,014	-	0
<b>F</b>	F-1/yr	2023	0.101	-	-
<b>ER</b>	ER-calc-ratio	2019	0.096	-	-
<b>TC</b>	TC-MT	2023	27,907		
<b>TL</b>	TL-MT	2023	15,167		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2023	0.257		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2023	0.257		
<b>ER/ERmgt</b>	-	-	-		

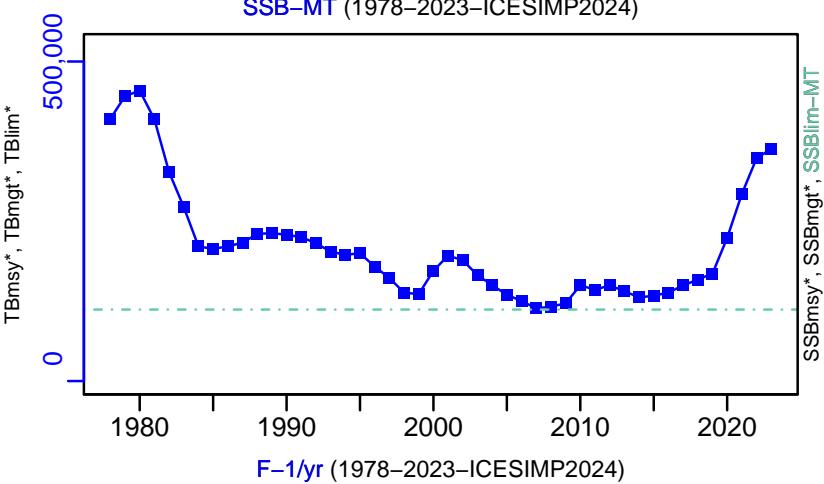
**Kobe MSY\*****Kobe MGT\***

Whiting ICES 4–7d [WHITNS–VIIId]

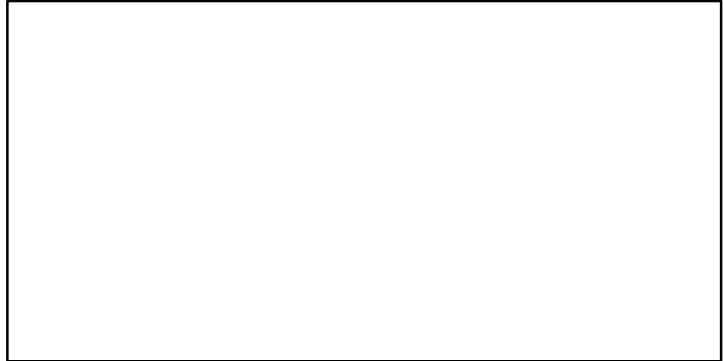
TB-MT (1978–2019–ICESIMP2021)



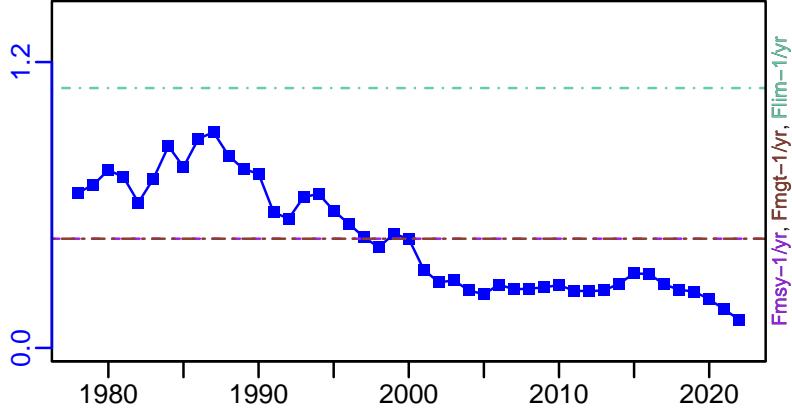
SSB-MT (1978–2023–ICESIMP2024)



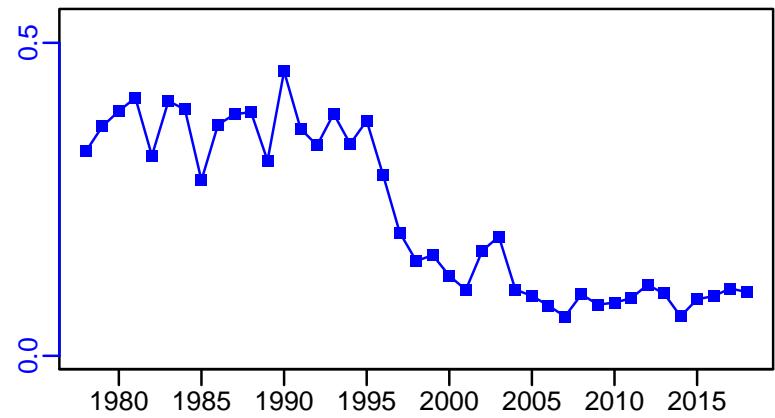
TN \*



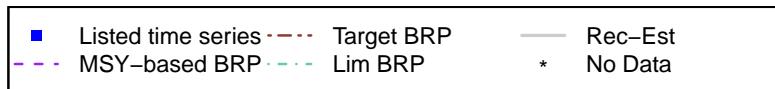
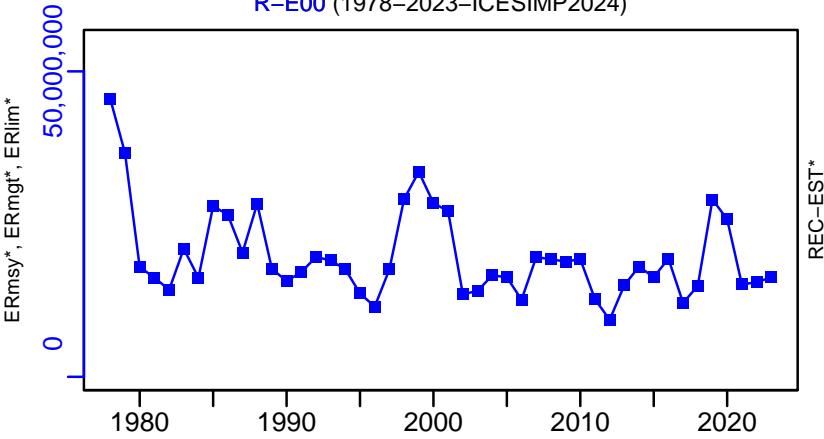
F-1/yr (1978–2023–ICESIMP2024)



ER-calc-ratio (1978–2019–ICESIMP2021)



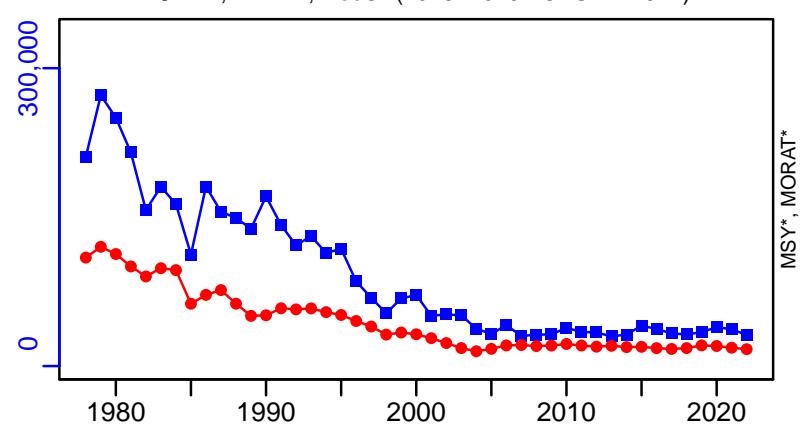
R-E00 (1978–2023–ICESIMP2024)



Whiting ICES 4–7d [WHITNS–VIIId]

TC–MT, TL–MT, RecC\* (1978–2023–ICESIMP2024)

TAC\*, Cpair\*, Cadv\*



survB\*

MSY\*, MORAT\*

CPUE\*

EFFORT\*

CdivMSY\*

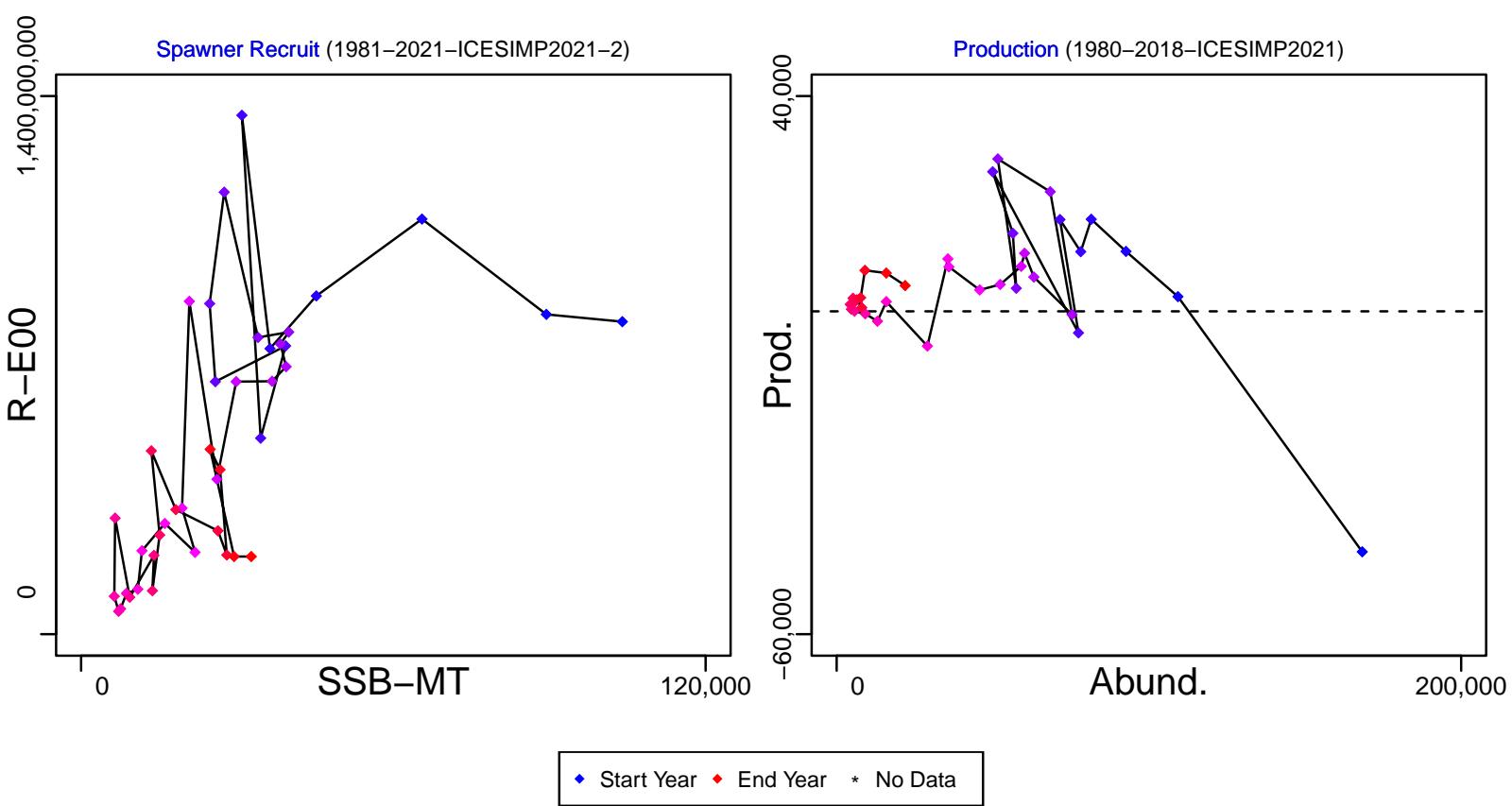
- |                          |                          |           |
|--------------------------|--------------------------|-----------|
| ■ 1st listed time series | ▲ 3rd listed time series | — MORAT   |
| ● 2nd listed time series | - - - MSY                | * No Data |

## Whiting West of Scotland [WHITVla]

<b>Metadata</b>	
<b>Scientific Name</b>	Merlangius merlangus
<b>Current Assess ID</b>	WGCSE-WHITVla-1981-2021-ICESIMP2021-2
<b>Area</b>	West of Scotland
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on Celtic Seas Ecosystems
<b>Asmts in RAM</b>	2020, 2013, 2014, 2015, 2016, 2017, 2018, 2021, 2012

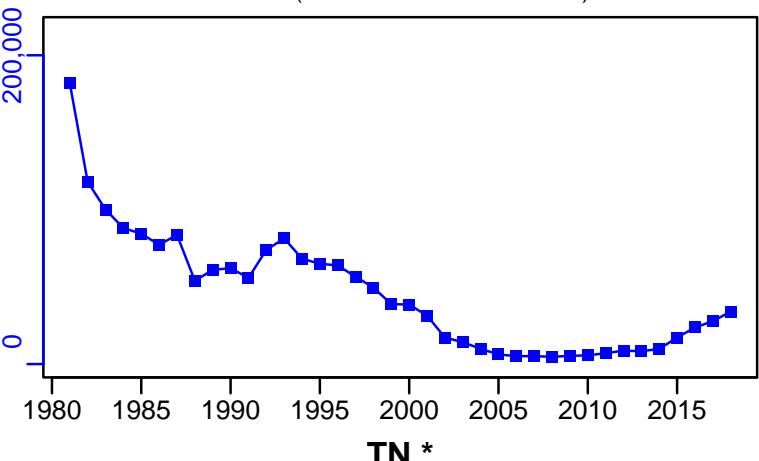
<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2021	0.21
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	Fmgt-1/yr	2021	0.21
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2021	17,300
<b>Flim</b>	Flim-1/yr	2021	0.31
<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	2018	31,460	-	-	
<b>SSB</b>	SSB-MT	2021	32,700	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2021	$2.02 \times 10^8$	-	0	
<b>F</b>	F-1/yr	2021	0.065	-	-	
<b>ER</b>	ER-calc-ratio	2018	0.054	-	-	
<b>TC</b>	TC-MT	2021	1360			
<b>TL</b>	TL-MT	2021	544			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2021	0.31			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2021	0.31			
<b>ER/ERmgt</b>	-	-	-			

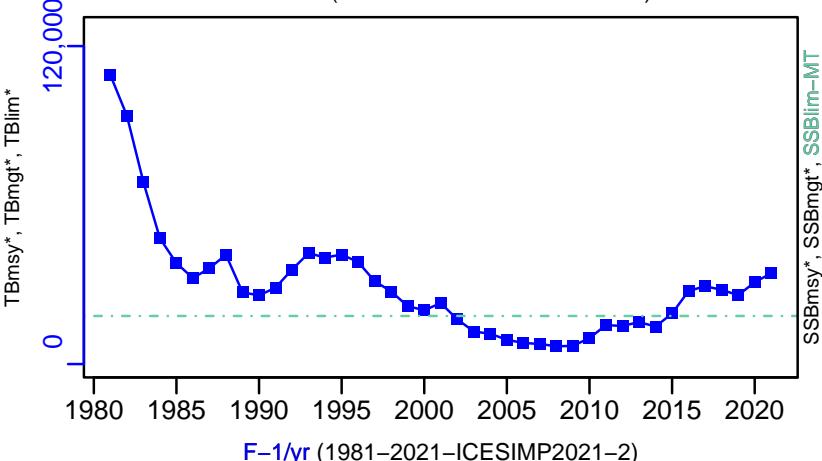
**Kobe MSY\*****Kobe MGT\***

### Whiting West of Scotland [WHITVla]

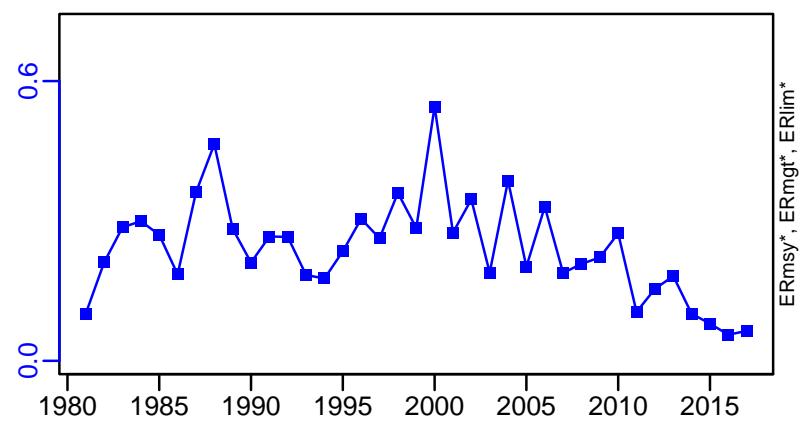
**TB-MT** (1980–2018–ICESIMP2021)



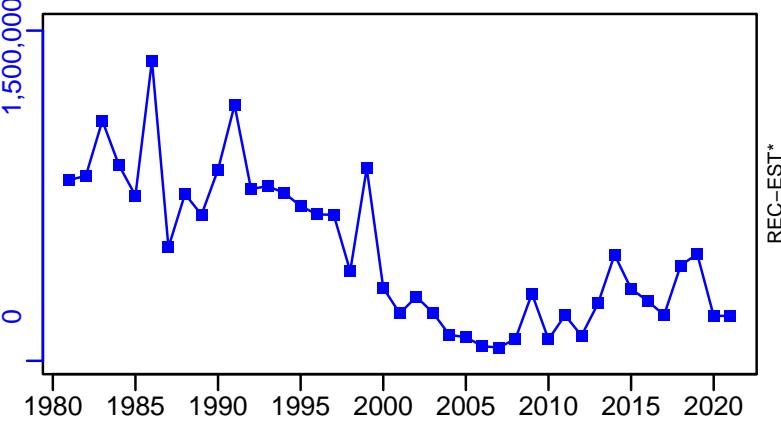
**SSB-MT** (1981–2021–ICESIMP2021–2)



**ER-calc-ratio** (1980–2018–ICESIMP2021)



**R-E00** (1981–2021–ICESIMP2021–2)

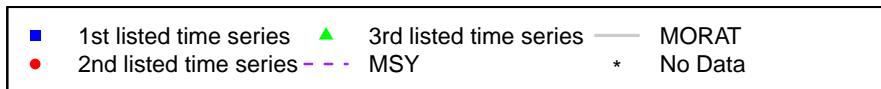
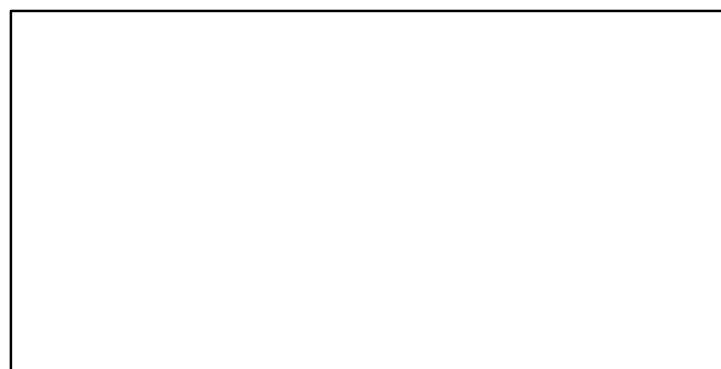
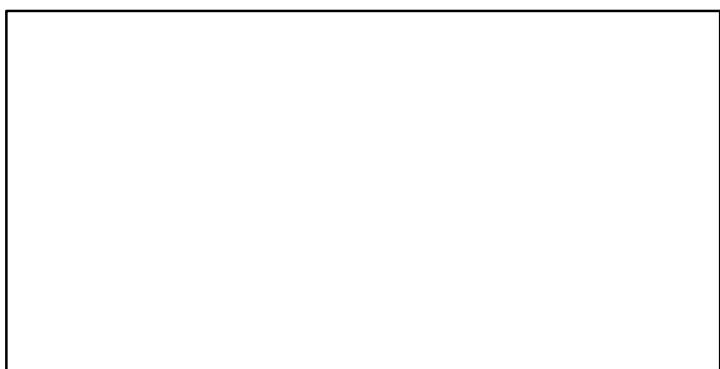
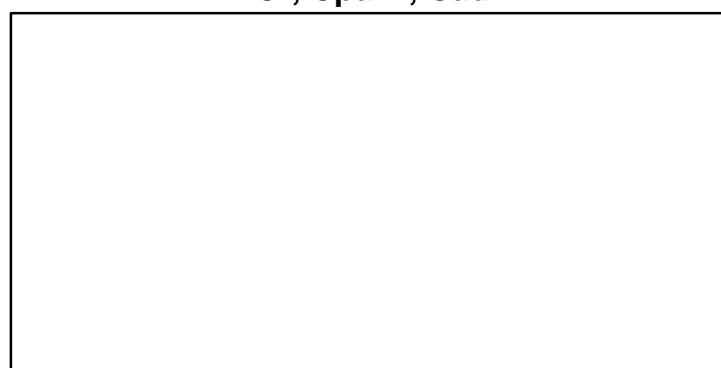
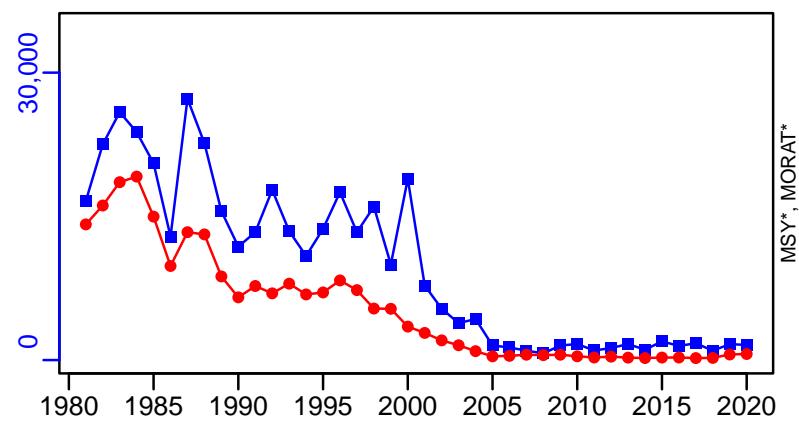


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	- - Lim BRP	* No Data

**Whiting West of Scotland [WHITVla]**

TC-MT, TL-MT, RecC\* (1981–2021–ICESIMP2021–2)

TAC\*, Cpair\*, Cadv\*



## Whiting Rockall Bank [WHITVIb]

<b>Metadata</b>	
<b>Scientific Name</b>	Merlangius merlangus
<b>Current Assess ID</b>	WGCSE-WHITVIb-1961-2020-ICESIMP2021-2
<b>Area</b>	Rockall Bank
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on Celtic Seas Ecosystems
<b>Asmts in RAM</b>	2014, 2017, 2020

<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>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<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>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	-	-	-		
<b>TL</b>	TL-MT	2020	38		
<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\***

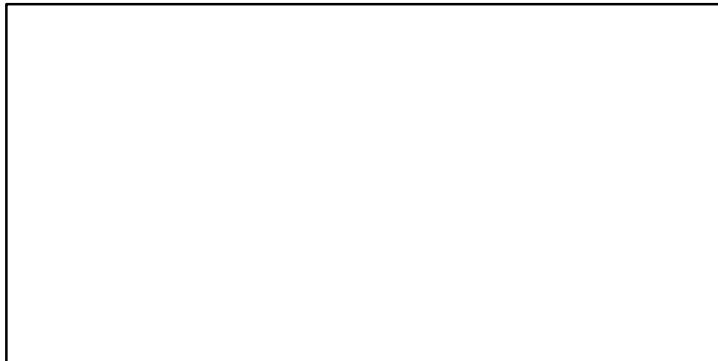
**Spawner Recruit\***

**Production\***

◆ Start Year ♦ End Year \* No Data

**Whiting Rockall Bank [WHITVlb]**

**TB\***



**SSB\***



**TN \***



**F\***



**ER\***



**Recruits\***

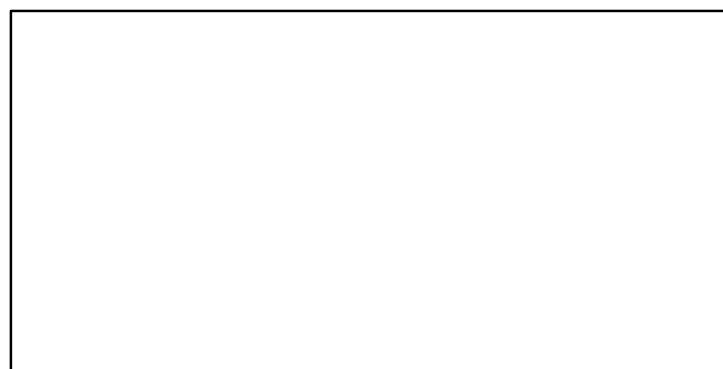
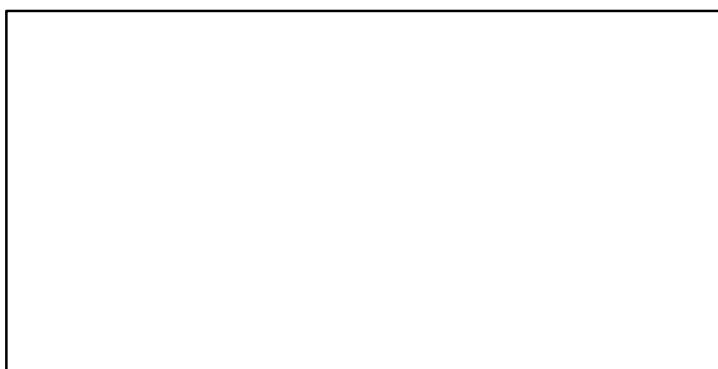
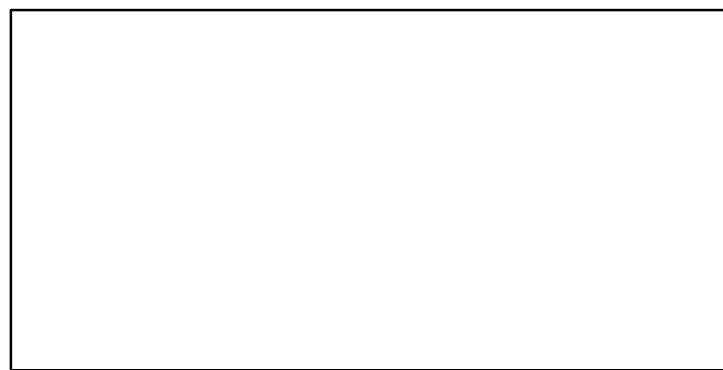
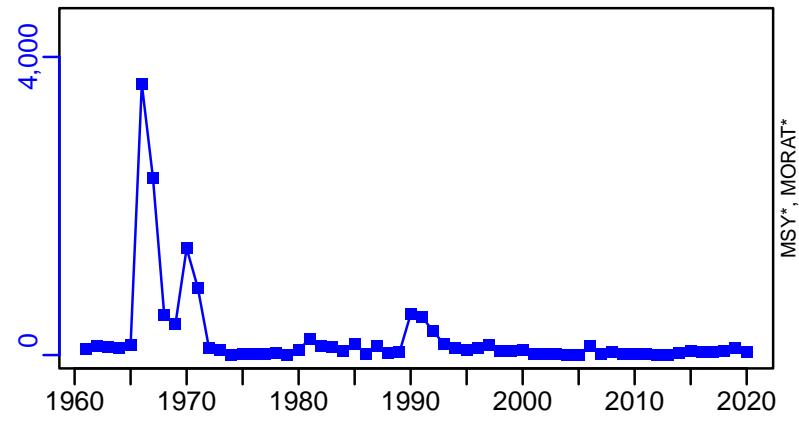


- |                      |                  |           |
|----------------------|------------------|-----------|
| ■ Listed time series | - - - Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP    | * No Data |

Whiting Rockall Bank [WHITVlb]

TL-MT, TC\*, RecC\* (1961–2020–ICESIMP2021–2)

TAC\*, Cpair\*, Cadv\*



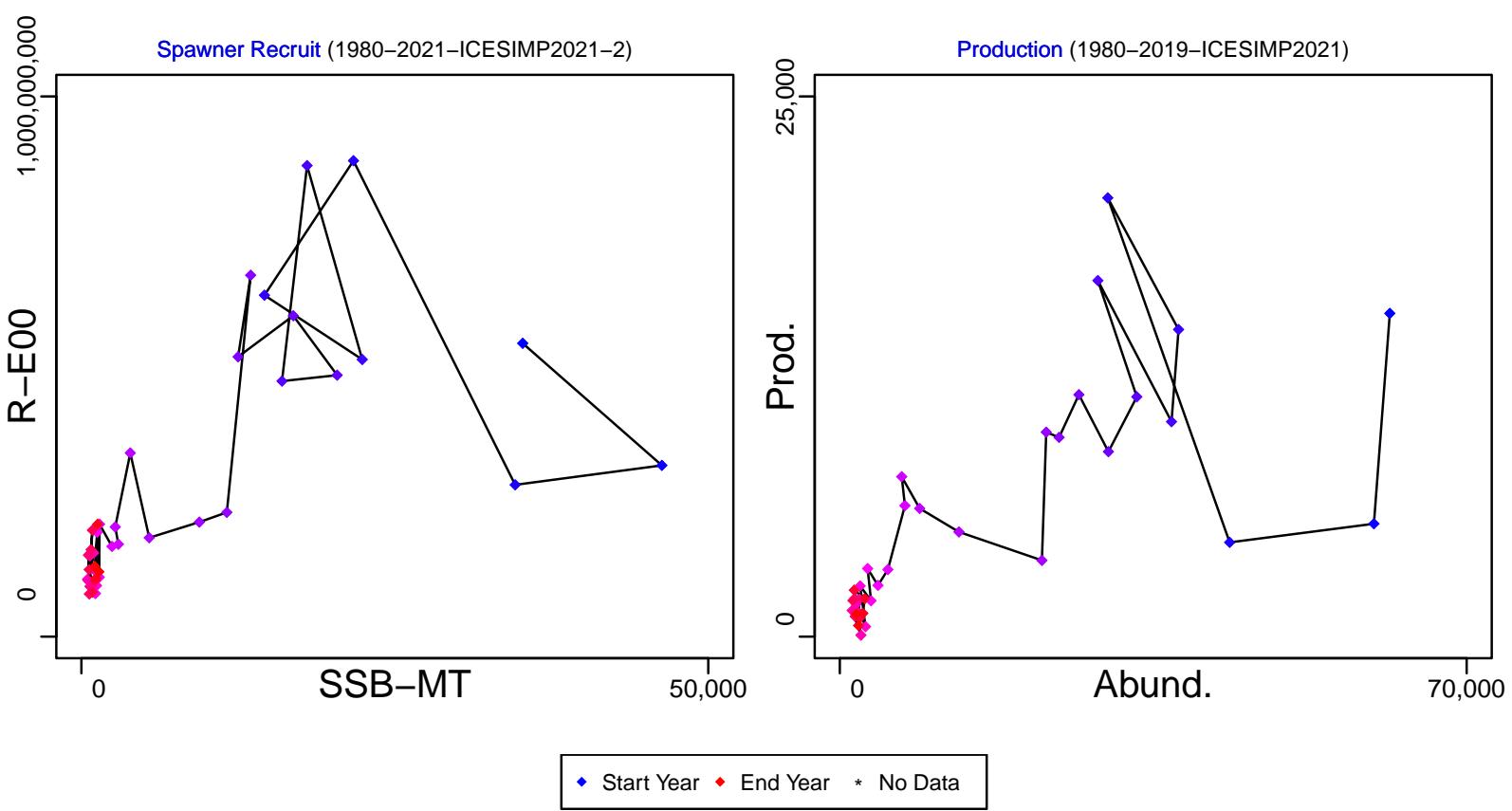
- |                          |                          |           |
|--------------------------|--------------------------|-----------|
| ■ 1st listed time series | ▲ 3rd listed time series | — MORAT   |
| ● 2nd listed time series | - - - MSY                | * No Data |

## Whiting Irish Sea [WHITVIIa]

<b>Metadata</b>	
<b>Scientific Name</b>	Merlangius merlangus
<b>Current Assess ID</b>	WGCSE-WHITVIIa-1980-2021-ICESIMP2021-2
<b>Area</b>	Irish Sea
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on Celtic Seas Ecosystems
<b>Asmts in RAM</b>	2016, 2017, 2019, 2021

<b>Reference Points</b>			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2021	0.219
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	Fmgt-1/yr	2021	0.219
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2021	10,000
<b>Flim</b>	Flim-1/yr	2021	0.371
<b>ERlim</b>	-	-	-

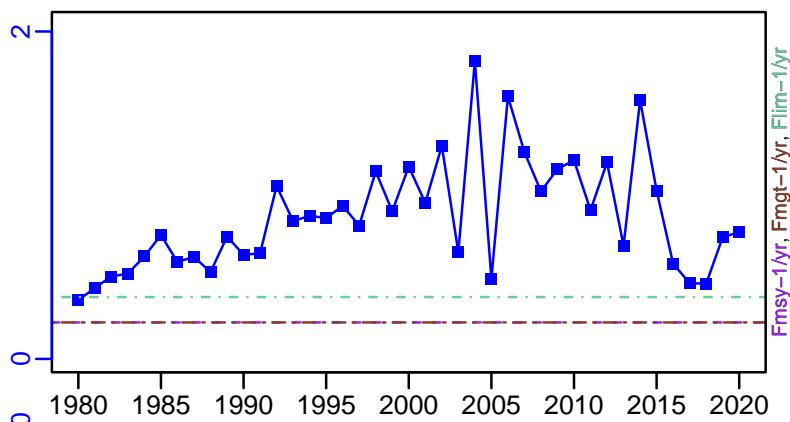
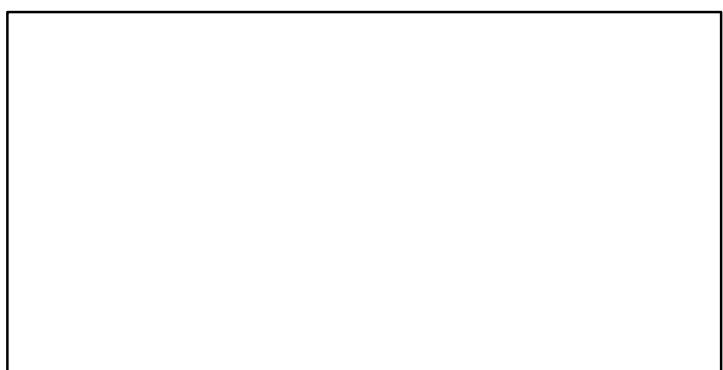
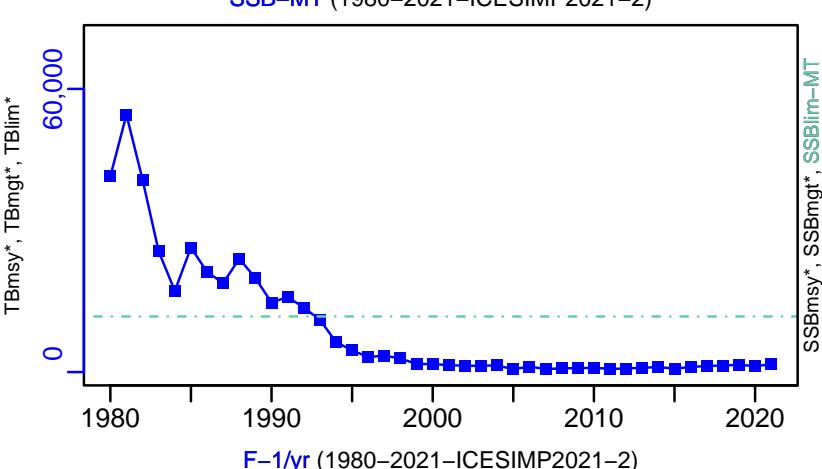
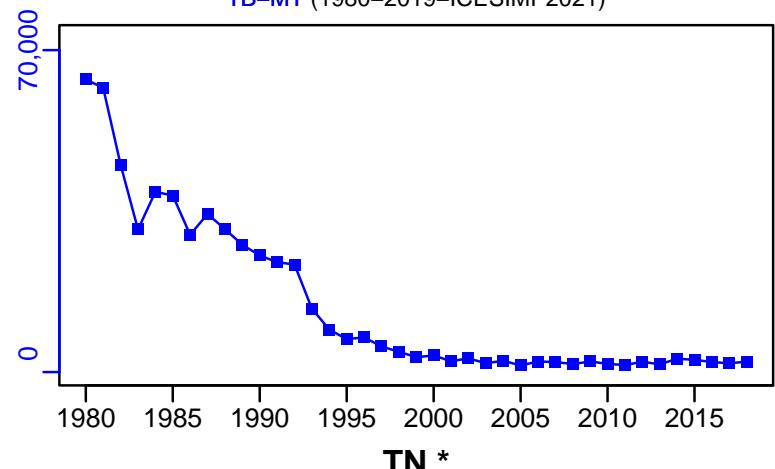
<b>Time Series</b>						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2019	2175	-	-	
<b>SSB</b>	SSB-MT	2021	1390	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2021	$1.2 \times 10^8$	-	0	
<b>F</b>	F-1/yr	2021	0.759	-	-	
<b>ER</b>	ER-calc-ratio	2019	0.413	-	-	
<b>TC</b>	TC-MT	2021	1120			
<b>TL</b>	TL-MT	2021	88			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2021	3.468			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2021	3.468			
<b>ER/ERmgt</b>	-	-	-			

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

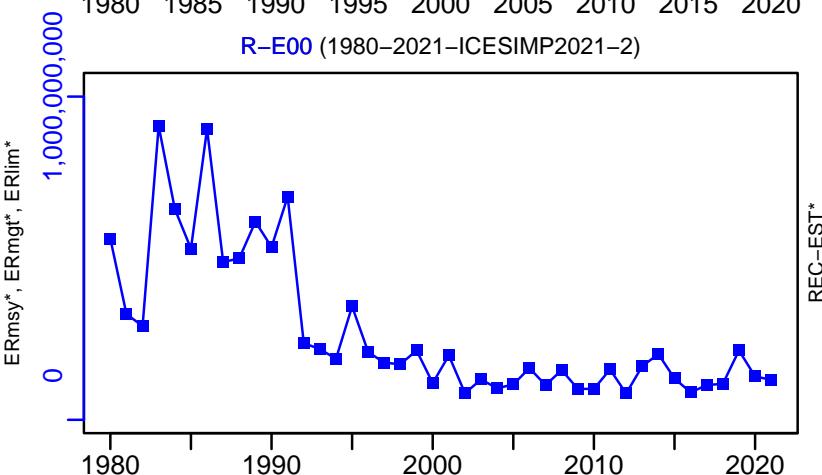
**Whiting Irish Sea [WHITVIIa]**

**TB-MT (1980–2019–ICESIMP2021)**

**SSB-MT (1980–2021–ICESIMP2021–2)**



**ER-calc-ratio (1980–2019–ICESIMP2021)**

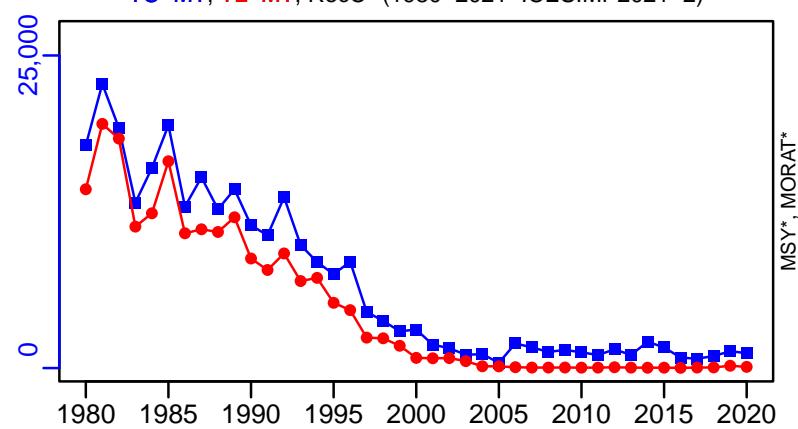


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	- - Lim BRP	* No Data

**Whiting Irish Sea [WHITVIIa]**

TC-MT, TL-MT, RecC\* (1980–2021–ICESIMP2021–2)

**TAC\*, Cpair\*, Cadv\***



MSY\*, MORAT\*

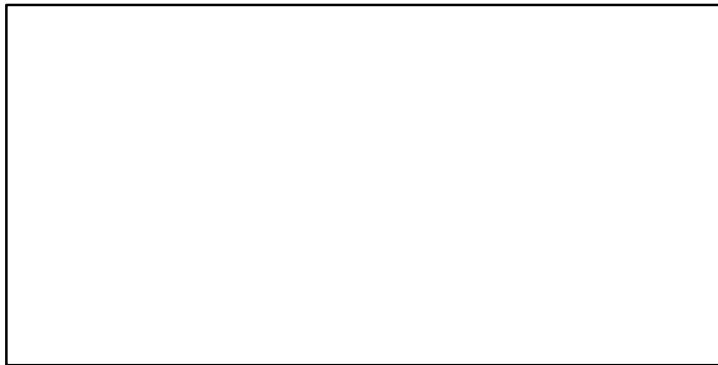
**survB\***



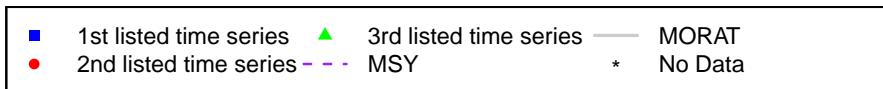
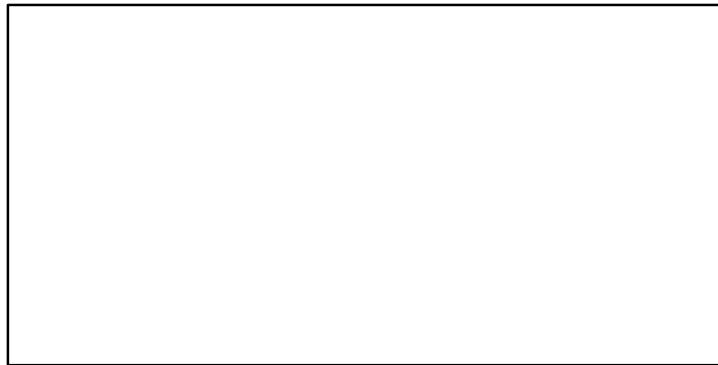
**CPUE\***



**EFFORT\***



**CdivMSY\***



## Whiting Celtic Sea [WHITVIIbce-k]

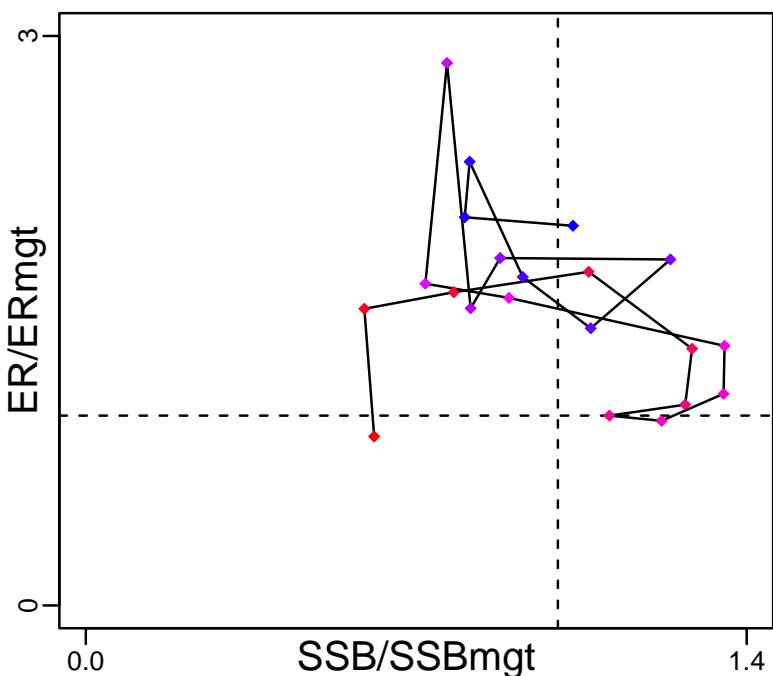
<b>Metadata</b>	
<b>Scientific Name</b>	Merlangius merlangus
<b>Current Assess ID</b>	WGCE-WHITVIIbce-k-1999-2023-ICESIMP2024
<b>Area</b>	Celtic Sea
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group on Celtic Seas Ecosystems
<b>Asmts in RAM</b>	2013, 2014, 2015, 2016, 2017, 2019, 2020, 2022, 2023, 2012

<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2023	0.375
<b>ERrmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2020	47,963
<b>Fmgt</b>	Fmgt-1/yr	2023	0.375
<b>ERmgt</b>	ERmgt-ratio	2020	0.4
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-MT	2012	21,000
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2023	36,571
<b>Flim</b>	Flim-1/yr	2023	0.64
<b>ERlim</b>	ERlim-ratio	2020	0.89

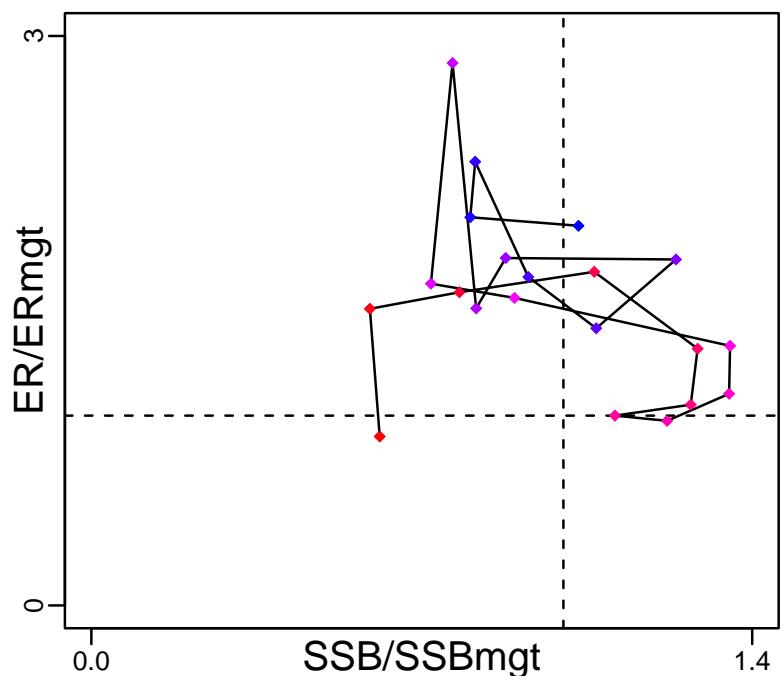
<b>Time Series</b>					
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Curr Value</b>	<b>Sex</b>	<b>Age</b>
<b>TB</b>	TB-MT	2016	95,300	Both	-
<b>SSB</b>	SSB-MT	2023	29,740	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2023	387,753	-	0
<b>F</b>	F-1/yr	2023	0.659	-	2 to 5
<b>ER</b>	ER-ratio	2020	0.356	-	-
<b>TC</b>	TC-MT	2023	7577		
<b>TL</b>	TL-MT	2023	5115		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2023	1.757		
<b>ER/ERrmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2020	0.646		
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2023	1.757		
<b>ER/ERmgt</b>	-	-	-		

Whiting Celtic Sea [WHITVIIbce–k]

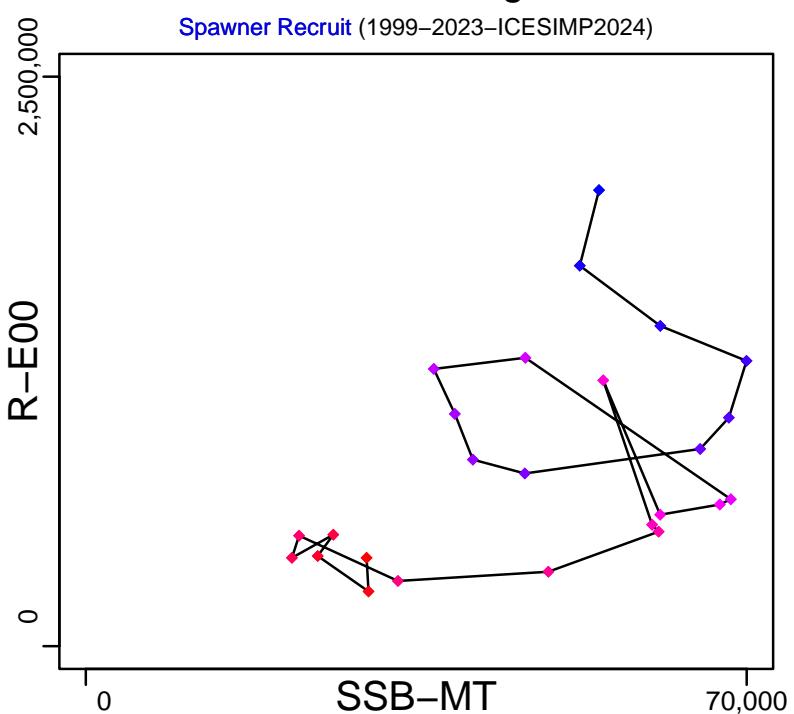
Kobe MSYpref (1999–2020–ICESIMP2021–2)



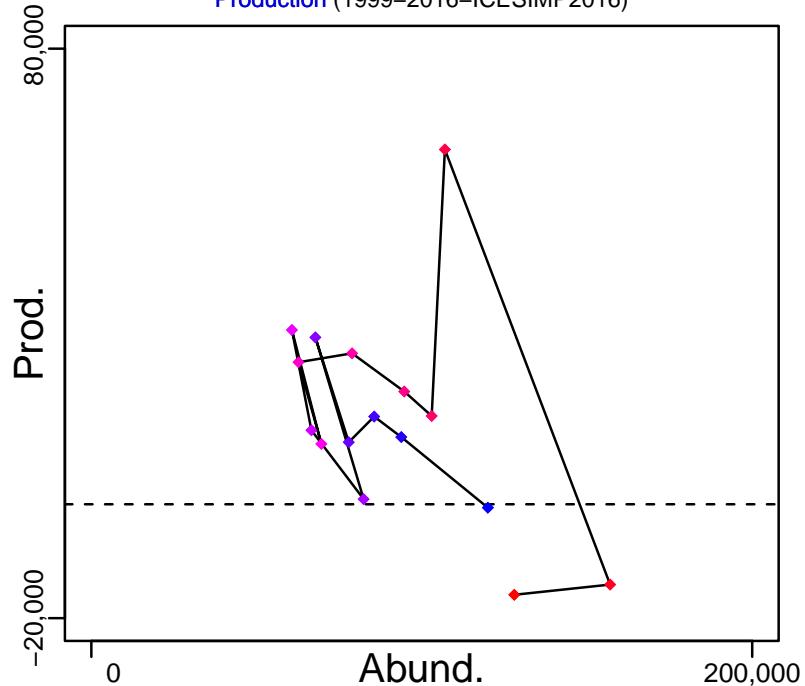
Kobe MGTpref (1999–2020–ICESIMP2021–2)



Spawner Recruit (1999–2023–ICESIMP2024)



Production (1999–2016–ICESIMP2016)

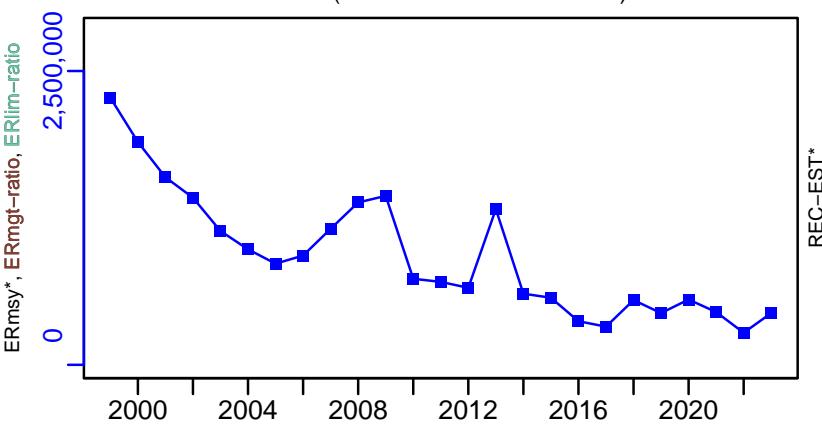
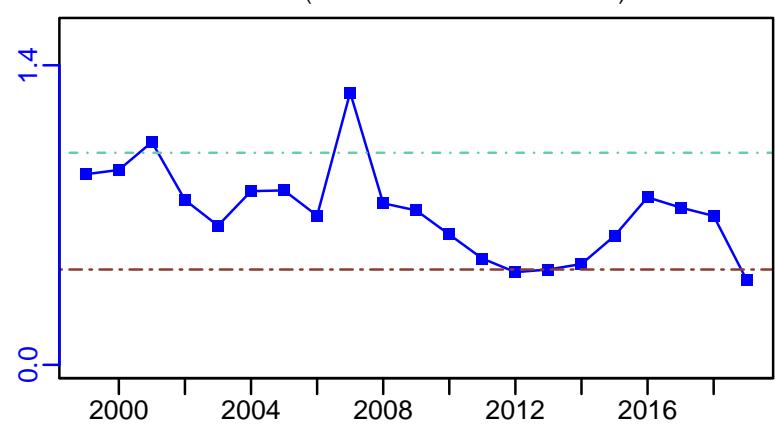
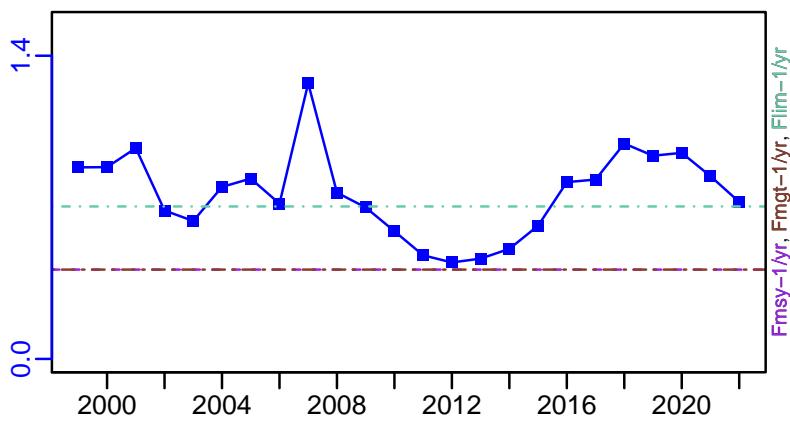
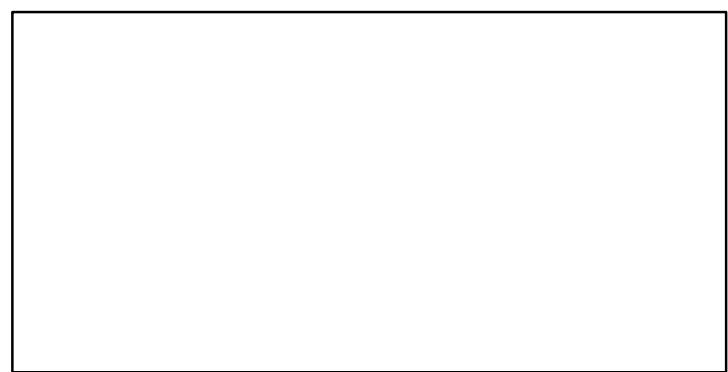
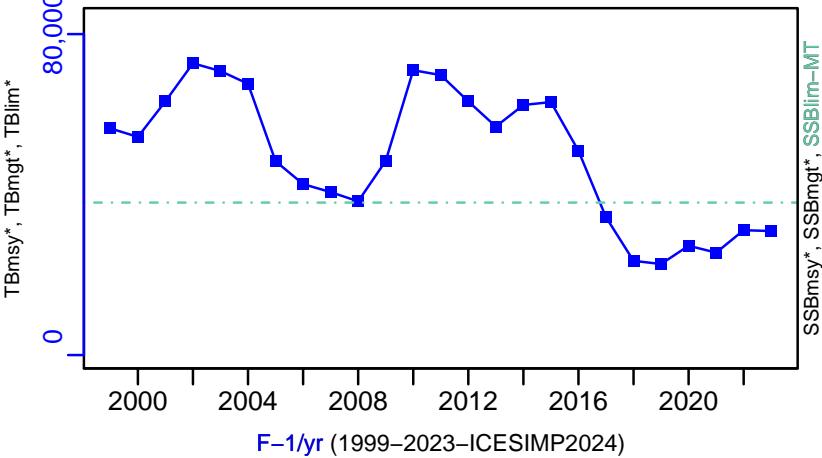
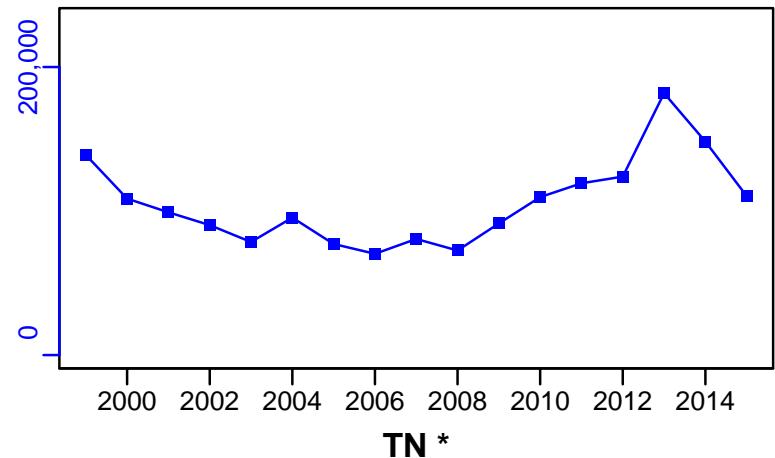


◆ Start Year   ◆ End Year   \* No Data

### Whiting Celtic Sea [WHITVIIbce–k]

TB-MT (1999–2016–ICESIMP2016)

SSB-MT (1999–2023–ICESIMP2024)

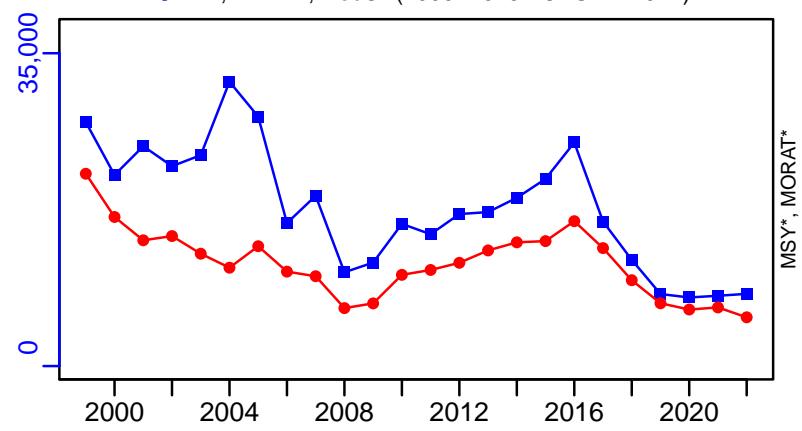


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	- - Lim BRP	* No Data

Whiting Celtic Sea [WHITVIIbce–k]

TC-MT, TL-MT, RecC\* (1999–2023–ICESIMP2024)

TAC\*, Cpair\*, Cadv\*



survB\*

MSY\*, MORAT\*



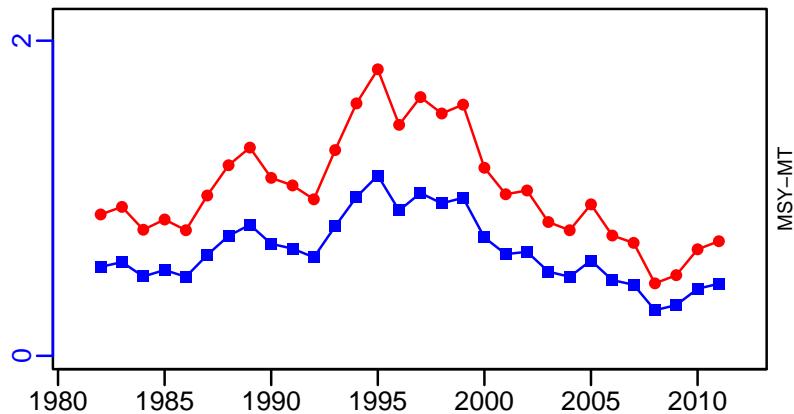
CPUE\*



EFFORT\*



TL-MT/MSY-MT, CdivMEANC-ratio, (1981–2012–CHING)



MSY-MT

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

## Whiting ICES 8-9a [WHITVIII-IXa]

<b>Metadata</b>	
<b>Scientific Name</b>	Merlangius merlangus
<b>Current Assess ID</b>	WGBIE-WHITVIII-IXa-1994-2020-ICESIMP2021-2
<b>Area</b>	ICES 8-9a
<b>Management Authority</b>	International Council for the Exploration of the Sea
<b>Assessor</b>	Working Group for the Bay of Biscay and the Iberian Waters Ecoregion
<b>Asmts in RAM</b>	2015, 2016, 2016, 2018, 2020

<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>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<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>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2020	1420		
<b>TL</b>	TL-MT	2020	1120		
<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\***

◆ Start Year ♦ End Year \* No Data

**TB\***



**SSB\***



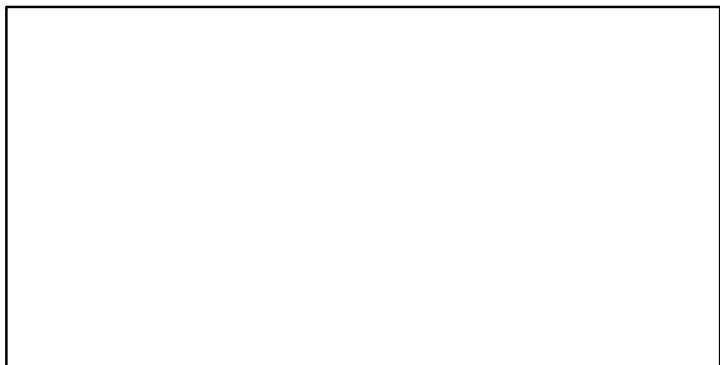
**TN \***



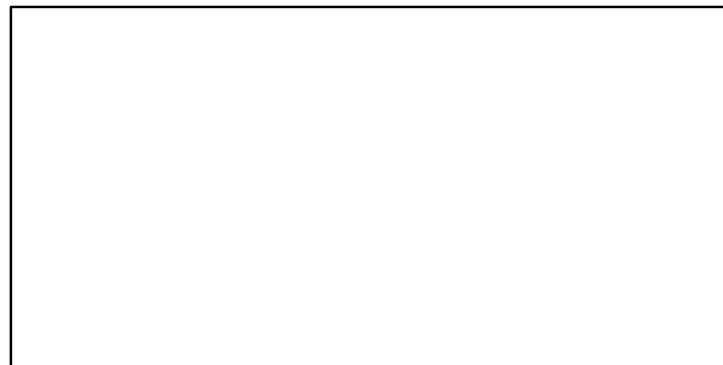
**F\***



**ER\***



**Recruits\***

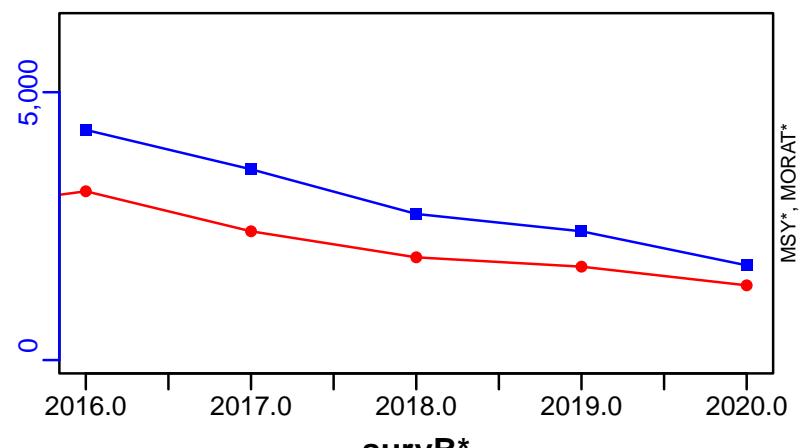


- |                      |                  |           |
|----------------------|------------------|-----------|
| ■ Listed time series | - - - Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP    | * No Data |

Whiting ICES 8–9a [WHITVIII–IXa]

TC–MT, TL–MT, RecC\* (1994–2020–ICESIMP2021–2)

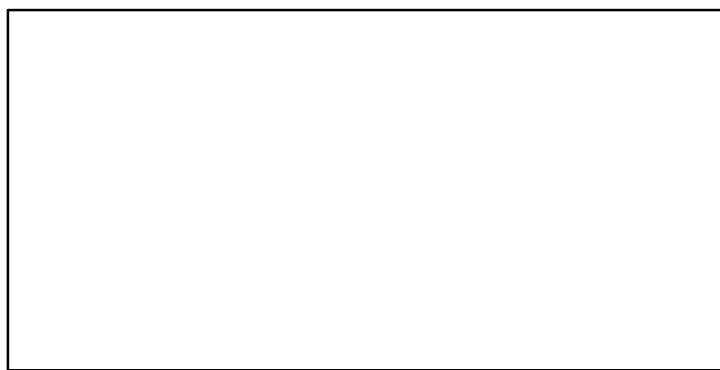
TAC\*, Cpair\*, Cadv\*



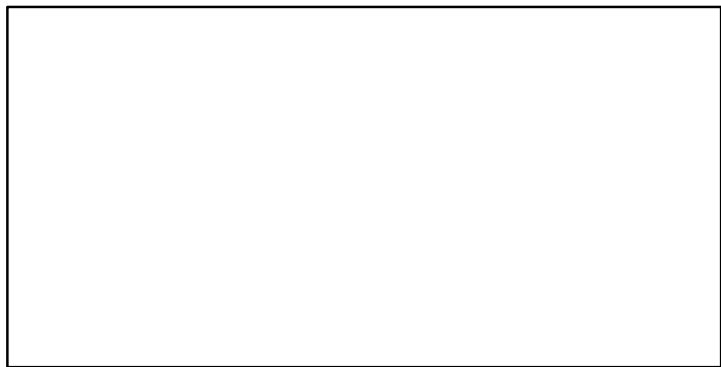
survB\*



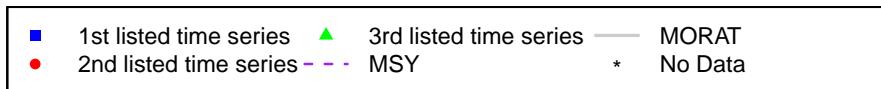
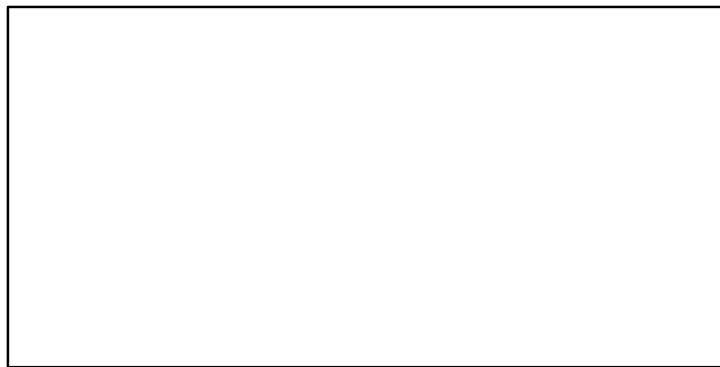
CPUE\*



EFFORT\*



CdivMSY\*



## Walleye pollock Aleutian Islands [WPOLLA]

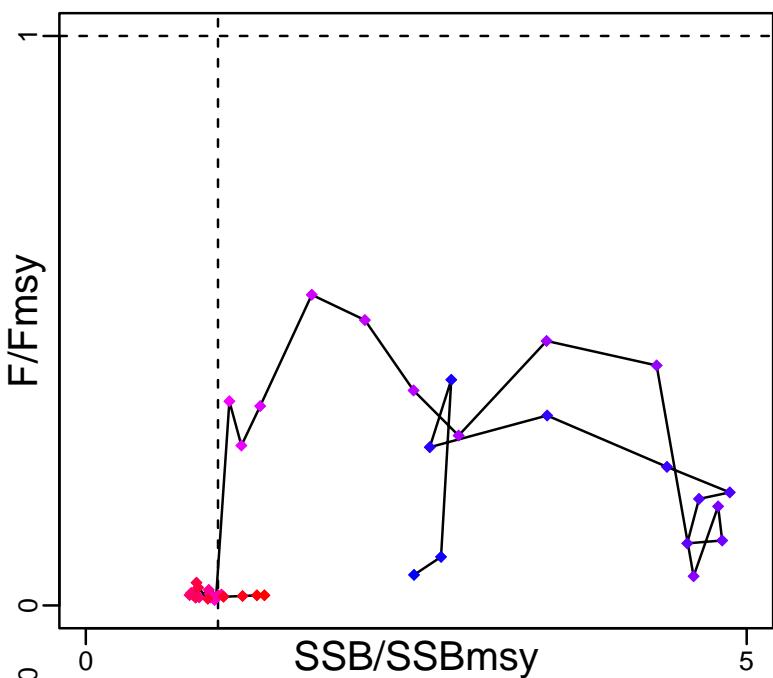
<b>Metadata</b>	
<b>Scientific Name</b>	Theragra chalcogramma
<b>Current Assess ID</b>	AFSC-WPOLLA-1978-2021-SISIMP2022
<b>Area</b>	Aleutian Islands
<b>Management Authority</b>	National Marine Fisheries Service, US national management
<b>Assessor</b>	Alaska Fisheries Science Center
<b>Asmts in RAM</b>	2013, 2015, 2016, 2018, 2018, 2020, 2021

<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	2021	64,916
<b>Fmsy</b>	Fmsy-1/yr	2021	0.39
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	Fmgt-1/yr	2015	0.34
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	Flim-1/yr	2020	0.432
<b>ERlim</b>	-	-	-

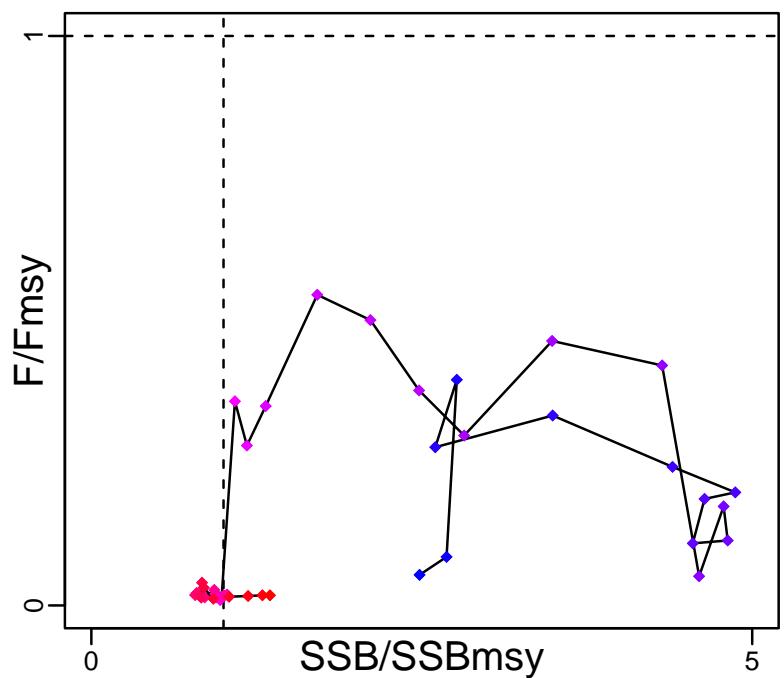
<b>Time Series</b>						
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Curr Value</b>	<b>Sex</b>	<b>Age</b>	
<b>TB</b>	TB-MT	2015	216,000	-	1+	
<b>SSB</b>	SSB-MT	2021	89,906	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2021	$1 \times 10^8$	-	0	
<b>F</b>	F-1/yr	2021	0.007	-	-	
<b>ER</b>	ER-calc-ratio	2015	0.012	-	-	
<b>TC</b>	TC-MT	2021	3205			
<b>TL</b>	-	-	-			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2021	1.385			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2021	0.018			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2015	0.035			
<b>ER/ERmgt</b>	-	-	-			

**Walleye pollock Aleutian Islands [WPOLLAI]**

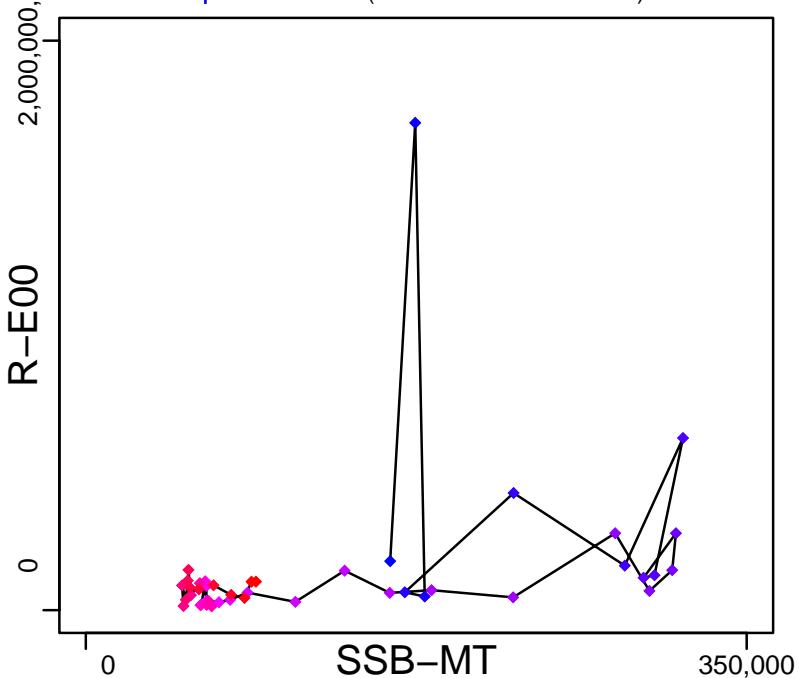
Kobe MSYpref (1978–2021–SISIMP2022)



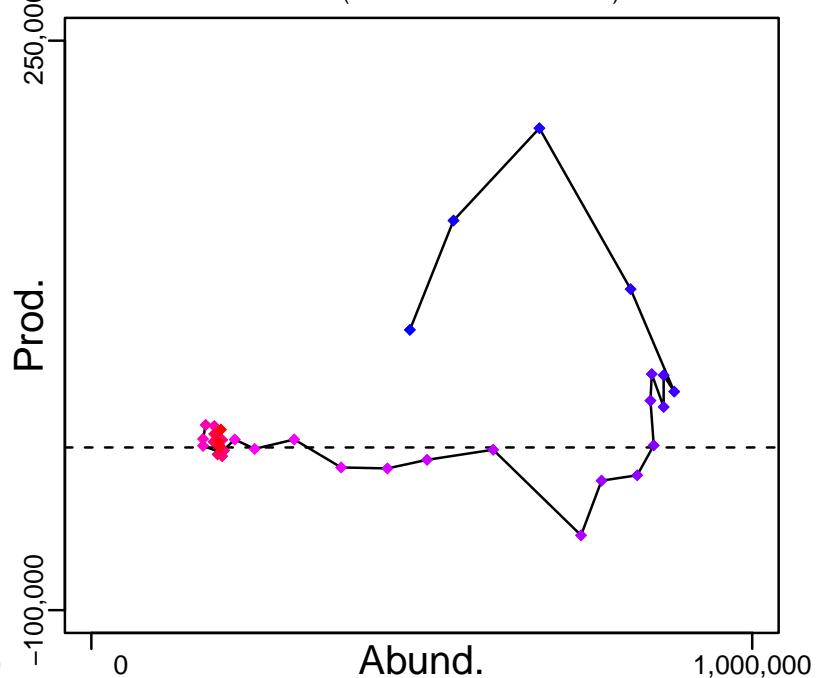
Kobe MGTpref (1978–2021–SISIMP2022)



Spawner Recruit (1978–2021–SISIMP2022)



Production (1978–2015–SISIMP2016)

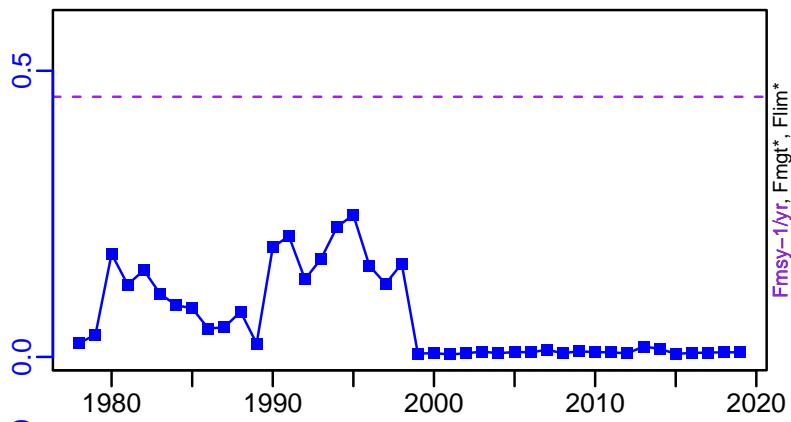
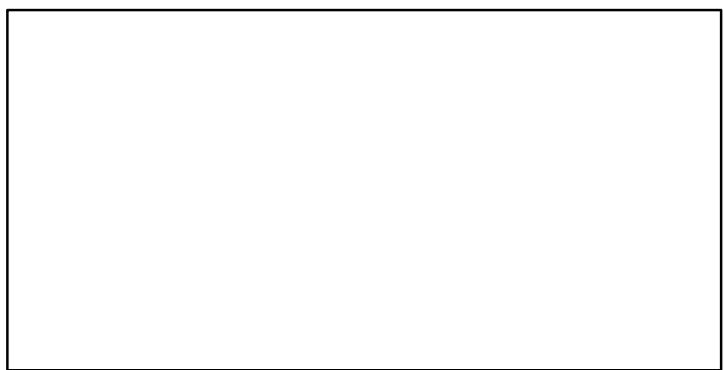
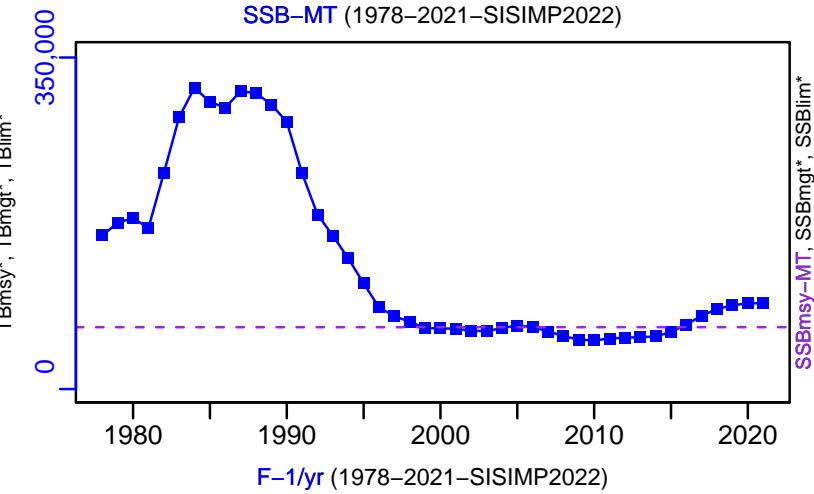
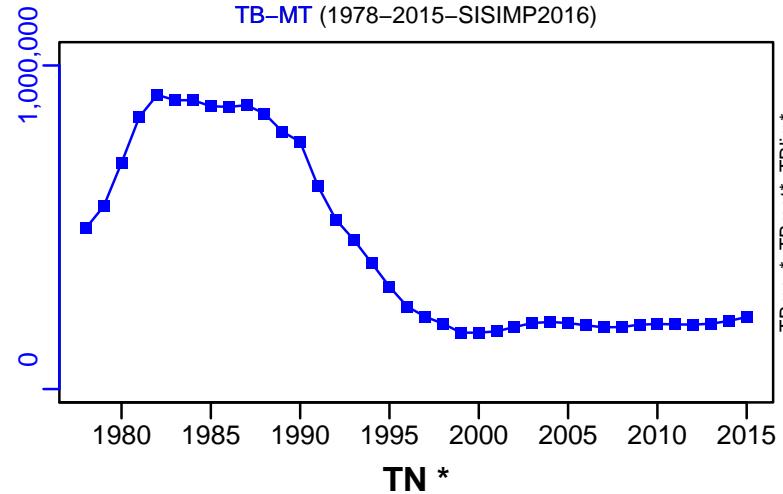


◆ Start Year ◆ End Year \* No Data

### Walleye pollock Aleutian Islands [WPOLLA]

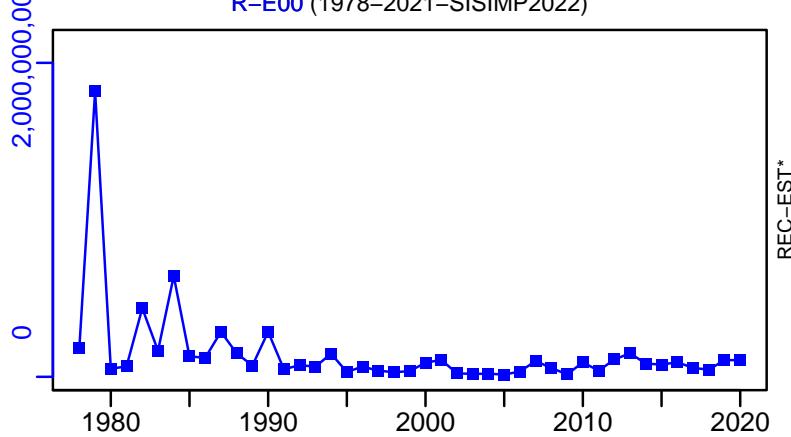
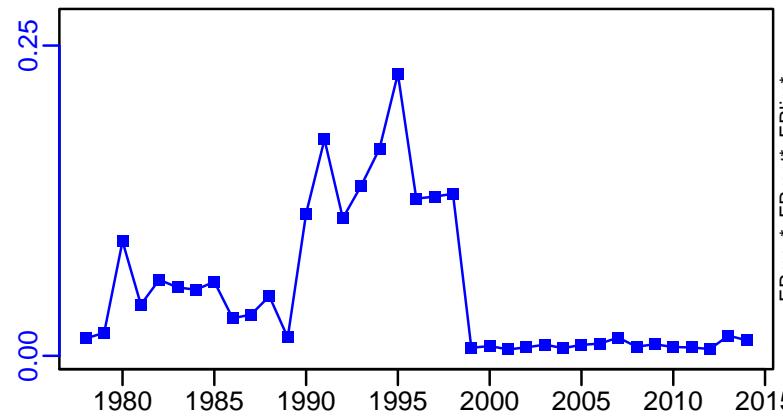
TB-MT (1978–2015–SISIMP2016)

SSB-MT (1978–2021–SISIMP2022)



ER-calc-ratio (1978–2015–SISIMP2016)

R-E00 (1978–2021–SISIMP2022)

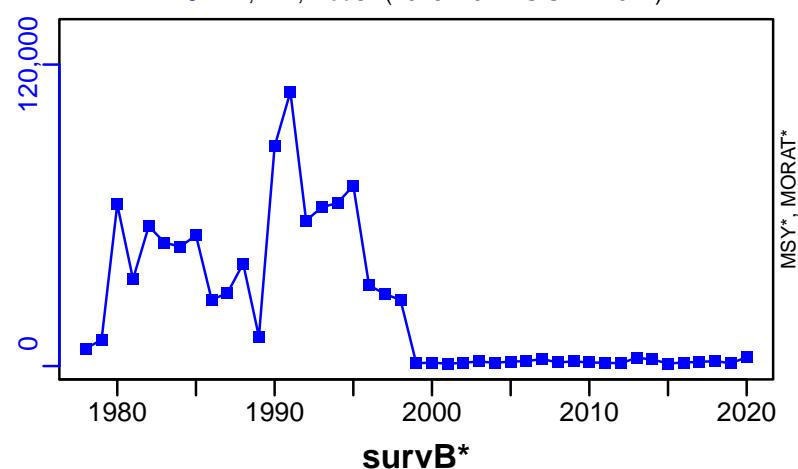


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	--- Lim BRP	* No Data

Walleye pollock Aleutian Islands [WPOLLA]

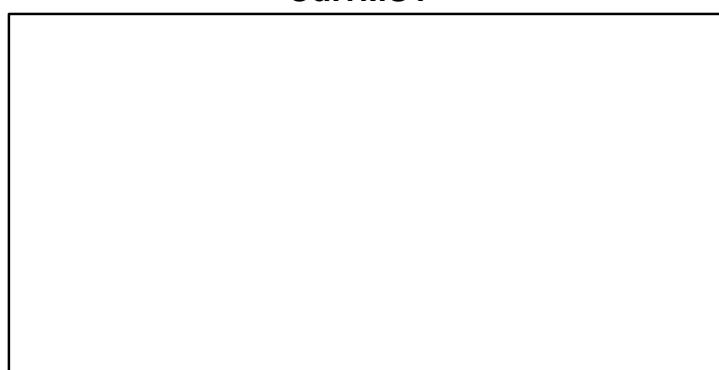
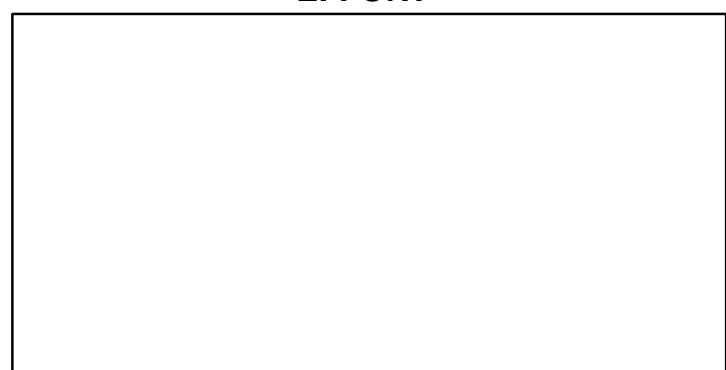
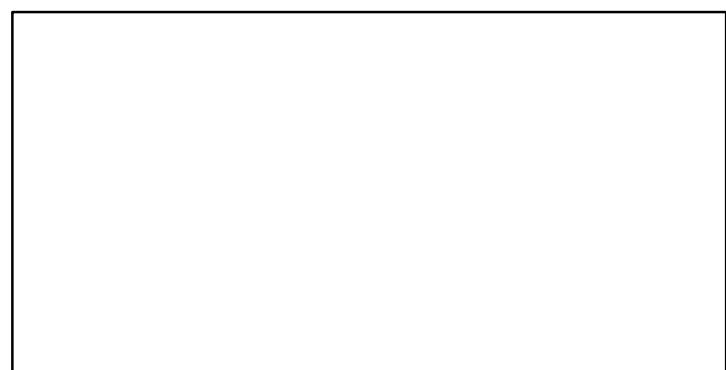
TC-MT, TL\*, RecC\* (1978–2021–SISIMP2022)

TAC\*, Cpair\*, Cadv\*



MSY\*, MORAT\*

TAC\*, Cpair\*, Cadv\*



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

## Walleye pollock British Columbia Waters North [WPOLLBCWN]

<b>Metadata</b>	
<b>Scientific Name</b>	Theragra chalcogramma
<b>Current Assess ID</b>	DFO-PAC-WPOLLBCWN-1966-2018-ASHBROOK
<b>Area</b>	British Columbia Waters North
<b>Management Authority</b>	Department of Fisheries and Oceans, Canada national management
<b>Assessor</b>	Department of Fisheries and Oceans - Pacific Region
<b>Asmts in RAM</b>	2018

<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	2018	7837
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2018	5727
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	M-1/yr	2018	0.3
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2018	2864
<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>	-	-	-	-	-
<b>SSB</b>	SSB-MT	2018	4943	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	-	-	-		
<b>TL</b>	TL-MT	2018	1165		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2018	0.631		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2018	0.863		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

Walleye pollock British Columbia Waters North [WPOLLBCWN]

**Kobe MSY\***

**Kobe MGT\***

**Spawner Recruit\***

**Production\***

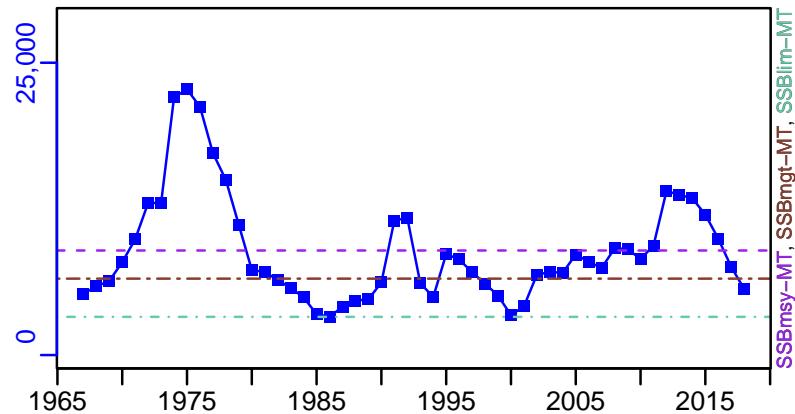
◆ Start Year ♦ End Year \* No Data

Walleye pollock British Columbia Waters North [WPOLLBCWN]

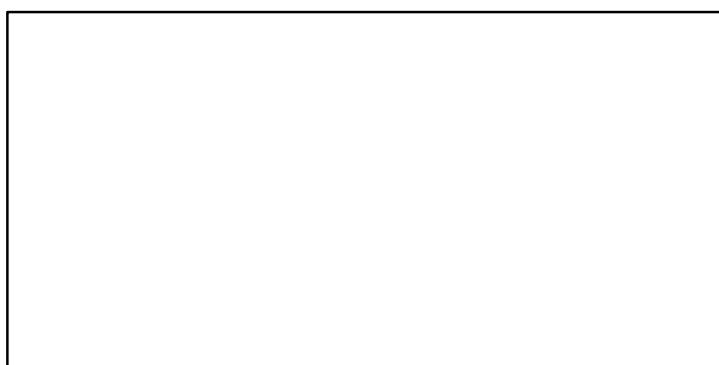
**TB\***



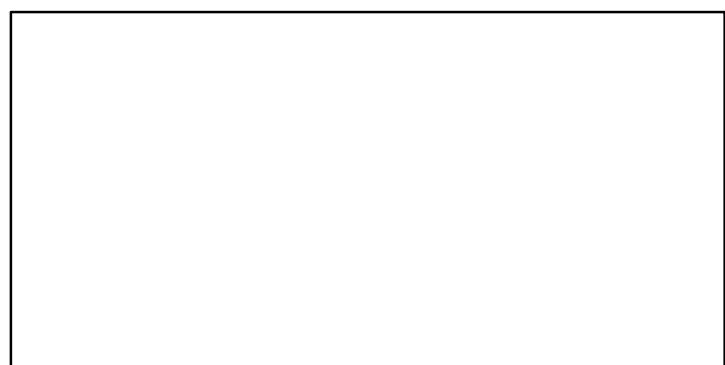
**SSB-MT (1966–2018–ASHBROOK)**



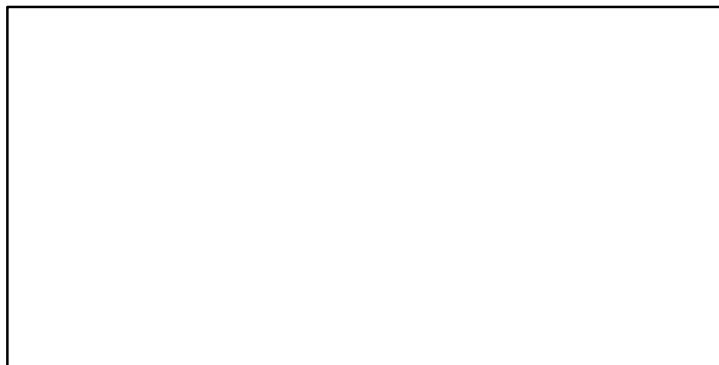
**TN \***



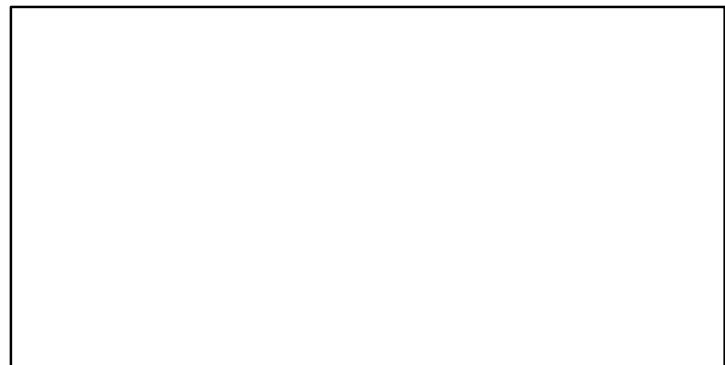
**F\***



**ER\***



**Recruits\***

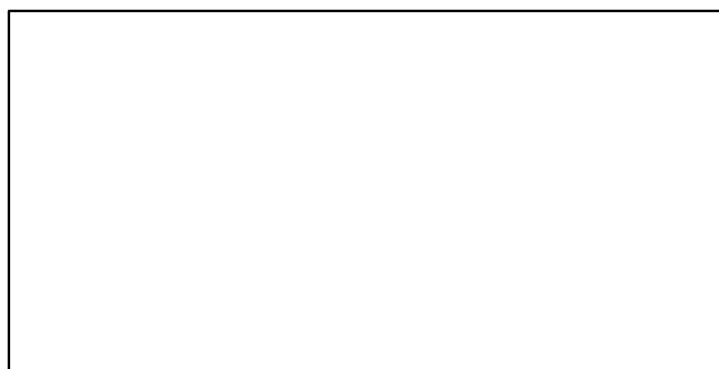
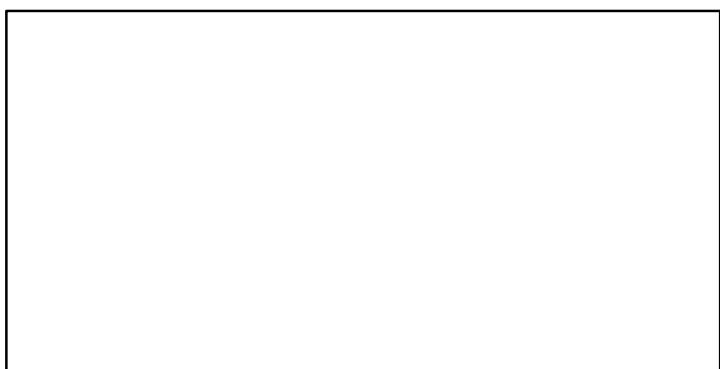
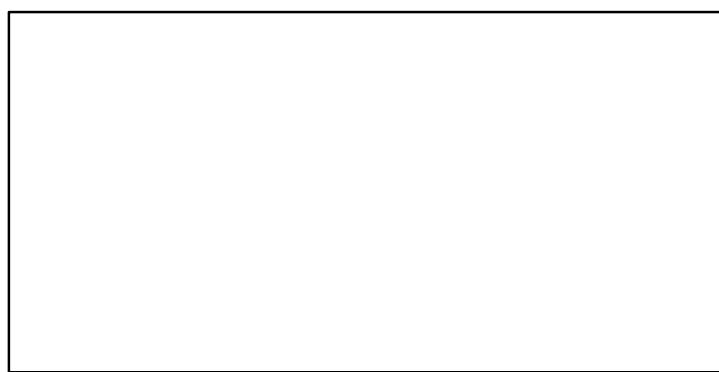
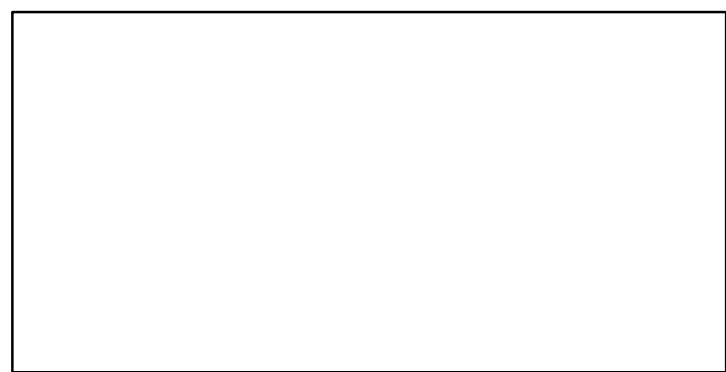
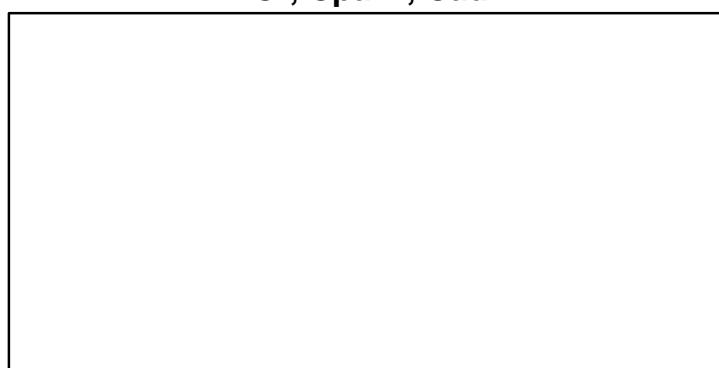
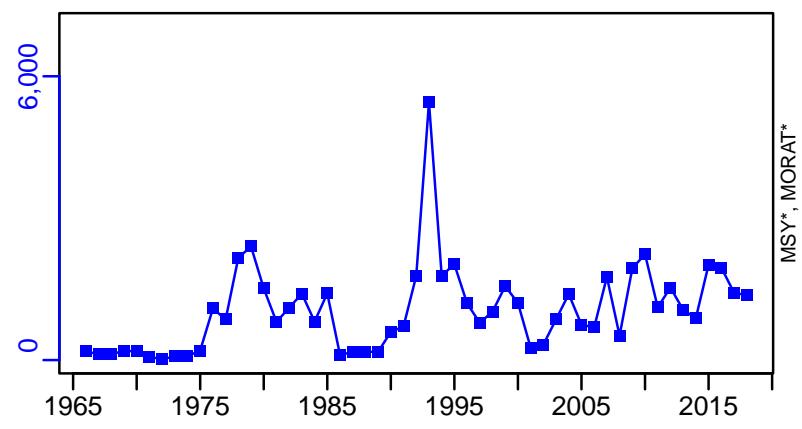


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| — MSY-based BRP      | — Lim BRP    | * No Data |

Walleye pollock British Columbia Waters North [WPOLLBCWN]

TL-MT, TC\*, RecC\* (1966–2018–ASHBROOK)

TAC\*, Cpair\*, Cadv\*



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

## Walleye pollock British Columbia Waters South [WPOLLBCWS]

<b>Metadata</b>	
<b>Scientific Name</b>	Theragra chalcogramma
<b>Current Assess ID</b>	DFO-PAC-WPOLLBCWS-1966-2018-ASHBROOK
<b>Area</b>	British Columbia Waters South
<b>Management Authority</b>	Department of Fisheries and Oceans, Canada national management
<b>Assessor</b>	Department of Fisheries and Oceans - Pacific Region
<b>Asmts in RAM</b>	2018

<b>Reference Points</b>			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	SSBmsy-MT	2018	33,487
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2018	11,504
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	M-1/yr	2018	0.3
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2018	5752
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

<b>Time Series</b>					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	-	-	-	-	-
<b>SSB</b>	SSB-MT	2018	24,113	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	-	-	-		
<b>TL</b>	TL-MT	2018	1608		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2018	0.72		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2018	2.096		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

Walleye pollock British Columbia Waters South [WPOLLBCWS]

**Kobe MSY\***

**Kobe MGT\***

**Spawner Recruit\***

**Production\***

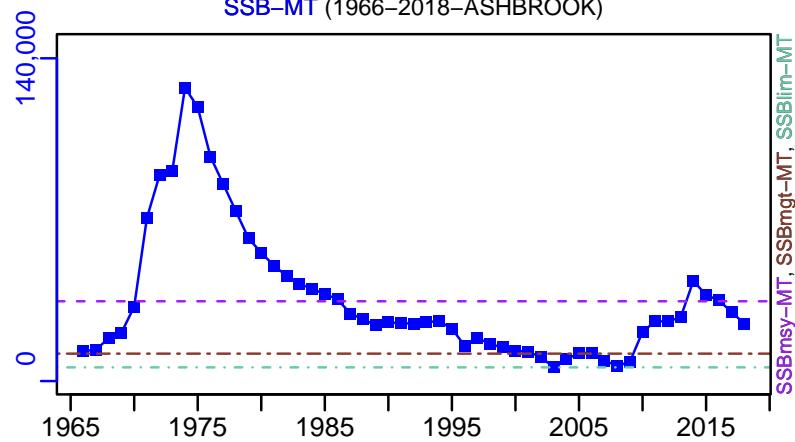
◆ Start Year ♦ End Year \* No Data

Walleye pollock British Columbia Waters South [WPOLLBCWS]

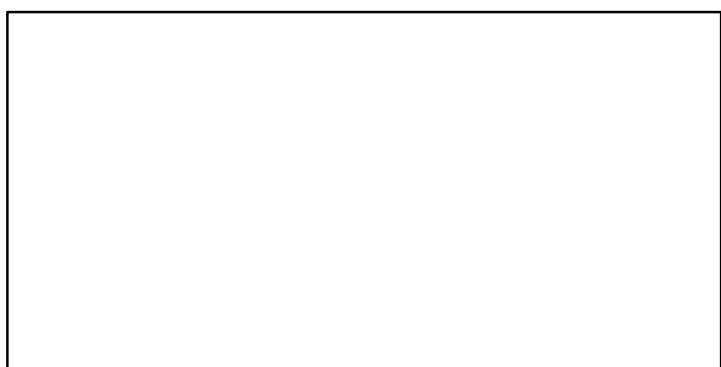
**TB\***



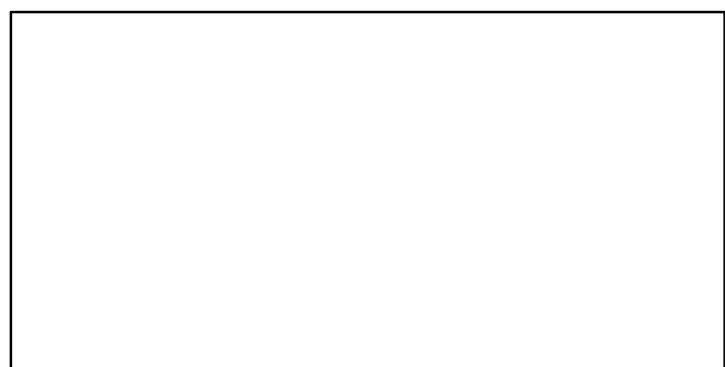
**SSB-MT (1966–2018–ASHBROOK)**



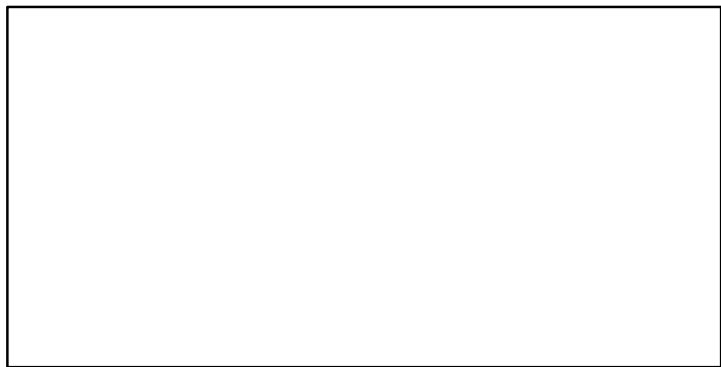
**TN \***



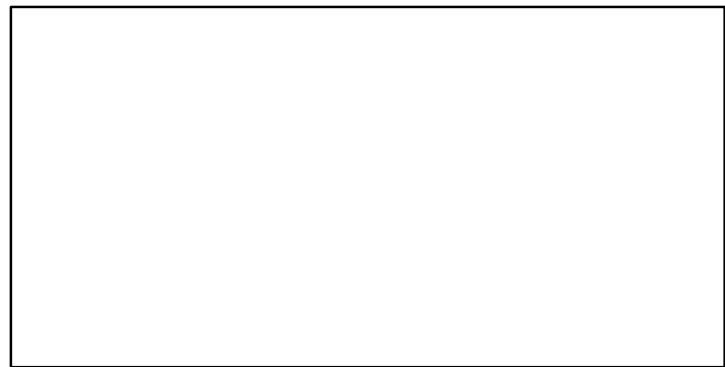
**F\***



**ER\***



**Recruits\***

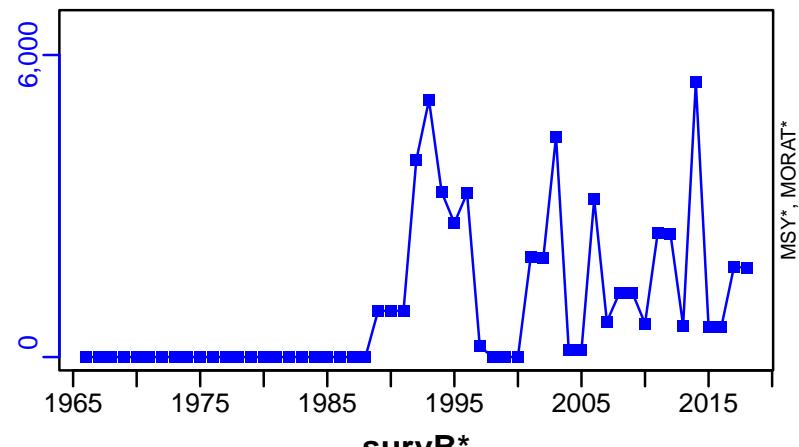


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| — MSY-based BRP      | — Lim BRP    | * No Data |

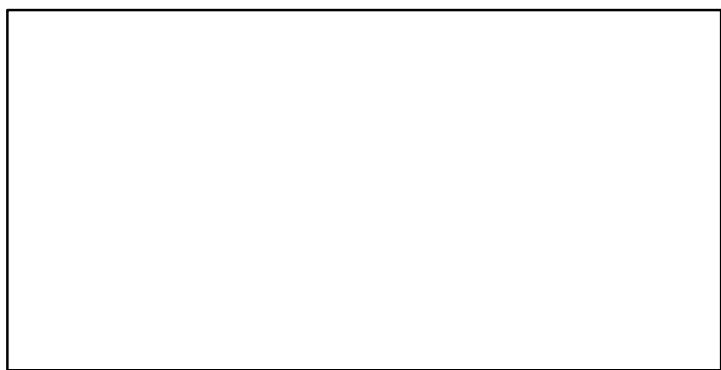
Walleye pollock British Columbia Waters South [WPOLLBCWS]

TL-MT, TC\*, RecC\* (1966–2018–ASHBROOK)

TAC\*, Cpair\*, Cadv\*

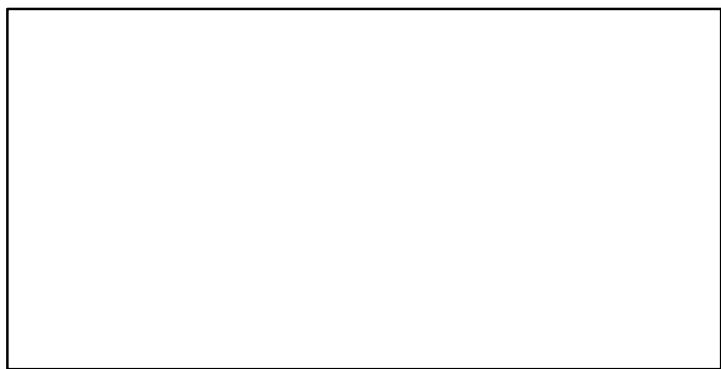


survB\*



CPUE\*

EFFORT\*



CdivMSY\*

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

## Walleye pollock Bogoslof [WPOLLBOGO]

<b>Metadata</b>	
<b>Scientific Name</b>	Theragra chalcogramma
<b>Current Assess ID</b>	AFSC-WPOLLBOGO-1977-2020-SISIMP2021-2
<b>Area</b>	Bogoslof
<b>Management Authority</b>	National Marine Fisheries Service, US national management
<b>Assessor</b>	Alaska Fisheries Science Center
<b>Asmts in RAM</b>	2014, 2017, 2020

<b>Reference Points</b>			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-ratio	2017	0.092
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	ERlim-ratio	2017	0.092

<b>Time Series</b>						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2017	434,760	-	-	
<b>SSB</b>	-	-	-	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	-	-	-	-	-	
<b>F</b>	-	-	-	-	-	
<b>ER</b>	ER-ratio	2017	0.003	-	-	
<b>TC</b>	TC-MT	2020	8			
<b>TL</b>	-	-	-			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	-	-	-			
<b>ER/ERmsy</b>	ER-ratio/ERmsy-ratio	2017	0.035			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

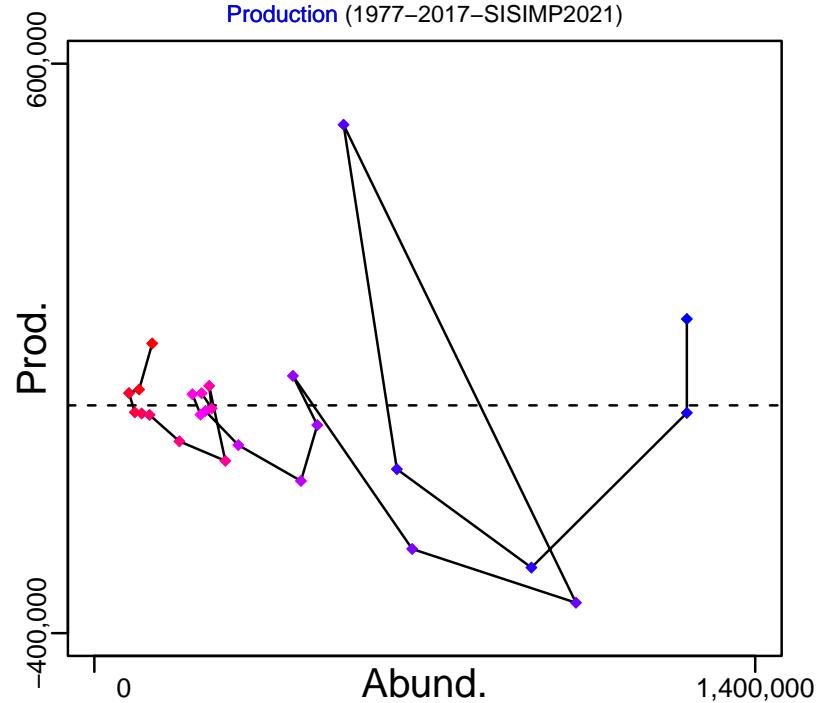
Walleye pollock Bogoslof [WPOLLBOGO]

Kobe MSY\*

Kobe MGT\*

Spawner Recruit\*

Production (1977–2017–SISIMP2021)

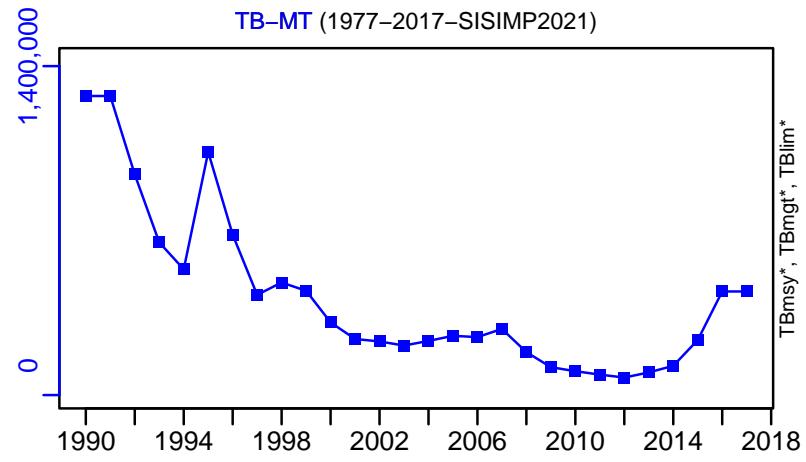


◆ Start Year   ◆ End Year   \* No Data

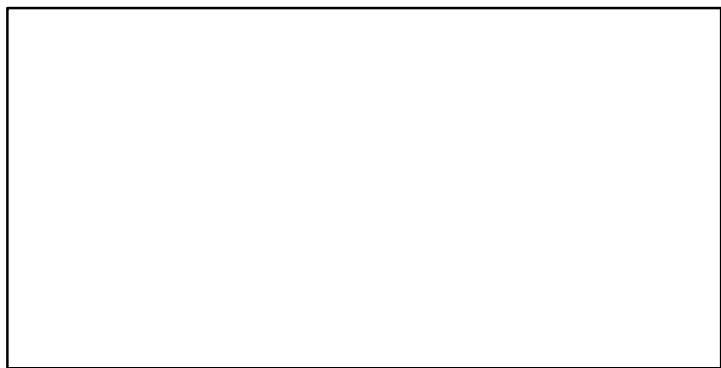
**Walleye pollock Bogoslof [WPOLLBOGO]**

TB-MT (1977–2017–SISIMP2021)

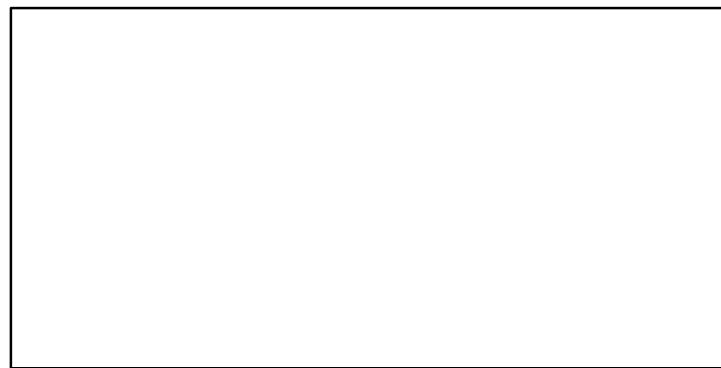
**SSB\***



**TN \***

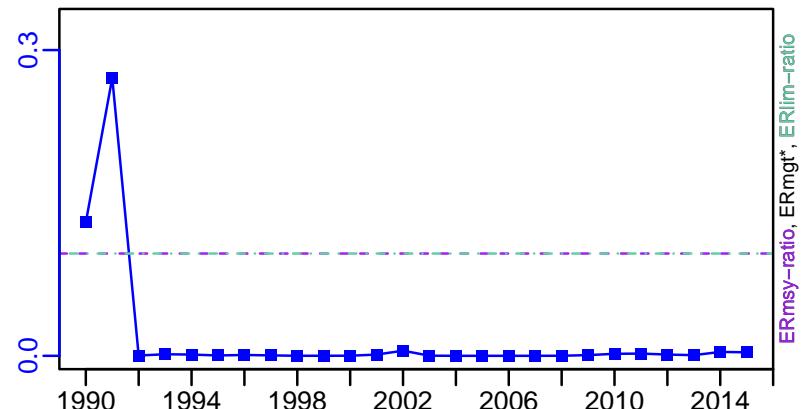


**F\***



ER-ratio (1977–2017–SISIMP2021)

**Recruits\***



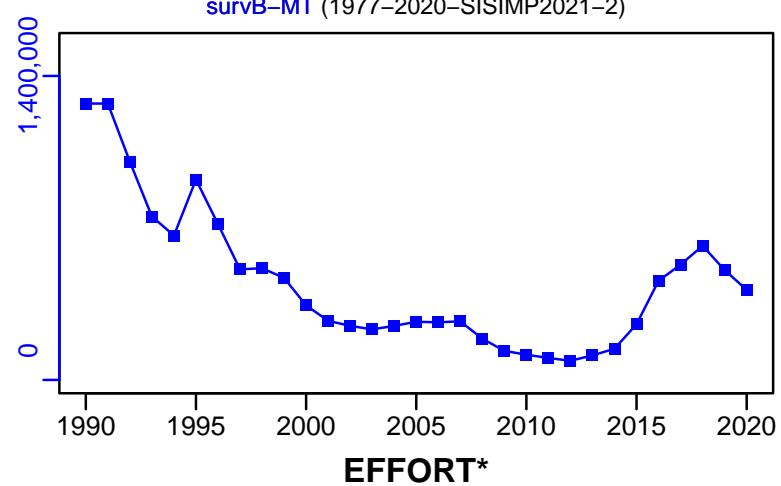
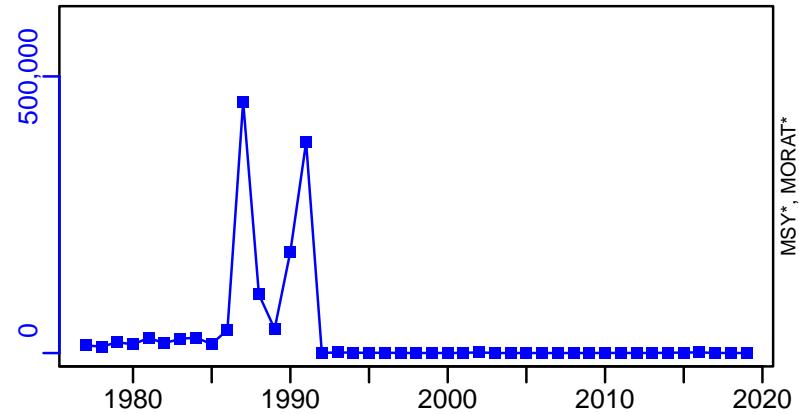
ER<sub>msy</sub>-ratio, ER<sub>mt</sub>, ER<sub>lim</sub>-ratio

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

Walleye pollock Bogoslof [WPOLLBOGO]

TC-MT, TL\*, RecC\* (1977–2020–SISIMP2021–2)

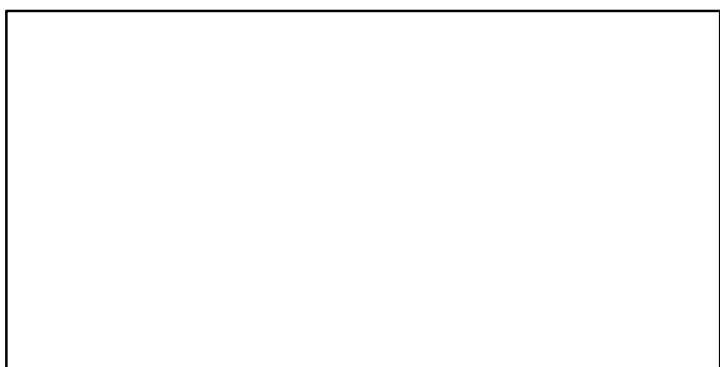
TAC\*, Cpair\*, Cadv\*



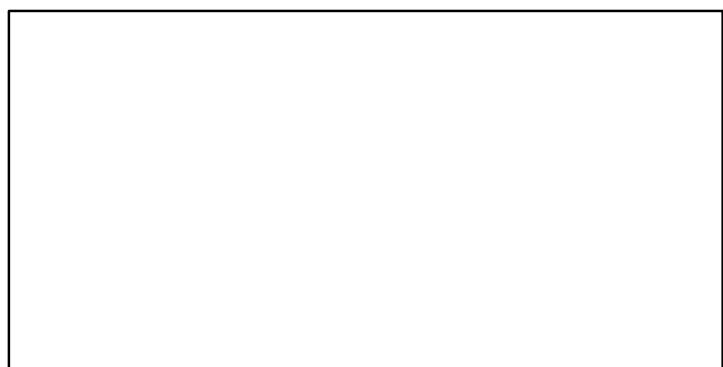
CPUE\*



EFFORT\*



CdivMSY\*



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

## Walleye pollock Eastern Bering Sea [WPOLLEBS]

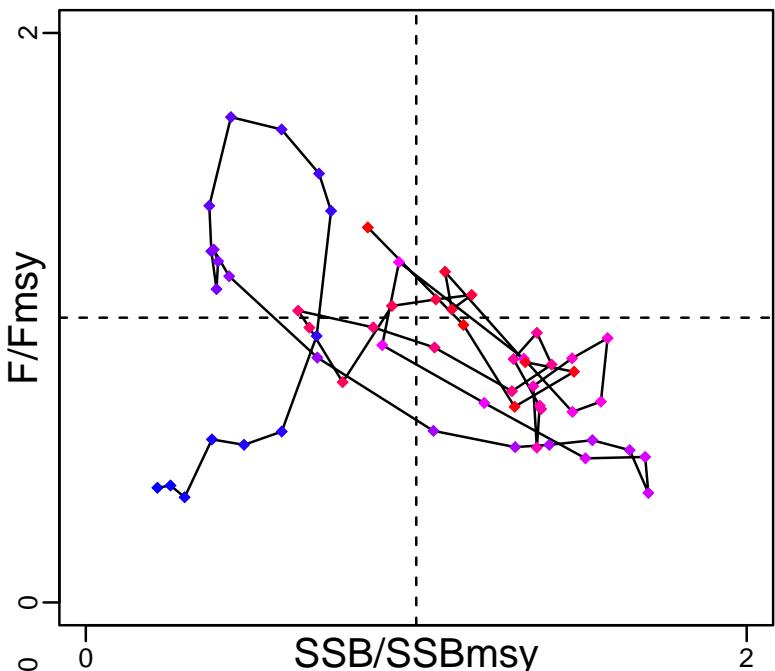
<b>Metadata</b>	
<b>Scientific Name</b>	Theragra chalcogramma
<b>Current Assess ID</b>	AFSC-WPOLLEBS-1963-2021-SISIMP2022
<b>Area</b>	Eastern Bering Sea
<b>Management Authority</b>	National Marine Fisheries Service, US national management
<b>Assessor</b>	Alaska Fisheries Science Center
<b>Asmts in RAM</b>	2015, 2016, 2017, 2018, 2021, 2019, 2020

<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	2021	2,257,000
<b>Fmsy</b>	Fmsy-1/yr	2021	0.46
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	SSB0-MT	2015	5,162,000
<b>MSY</b>	MSY-MT	2018	1,953,300
<b>M</b>	M-1/yr	2015	0.3
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	Flim-1/yr	2020	0.508
<b>ERlim</b>	-	-	-

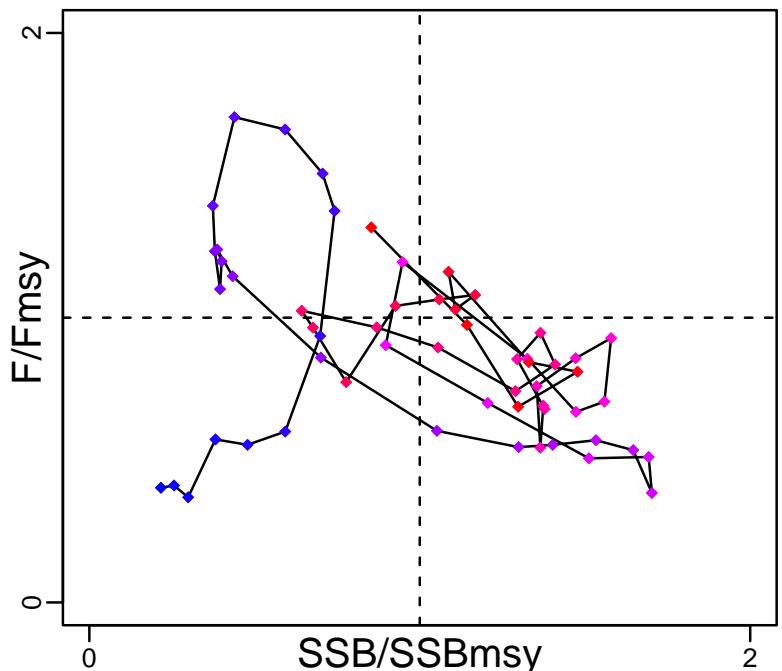
<b>Time Series</b>						
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Curr Value</b>	<b>Sex</b>	<b>Age</b>	
<b>TB</b>	TB-MT	2015	7,780,000	-	3+	
<b>SSB</b>	SSB-MT	2021	1,797,500	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2021	20,205,199,220	-	1	
<b>F</b>	F-1/yr	2021	0.606	-	-	
<b>ER</b>	ER-calc-ratio	2015	0.16	-	-	
<b>TC</b>	TC-MT	2021	1,367,000			
<b>TL</b>	-	-	-			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2021	0.796			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2021	1.317			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	-	-	-			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

Walleye pollock Eastern Bering Sea [WPOLLEBS]

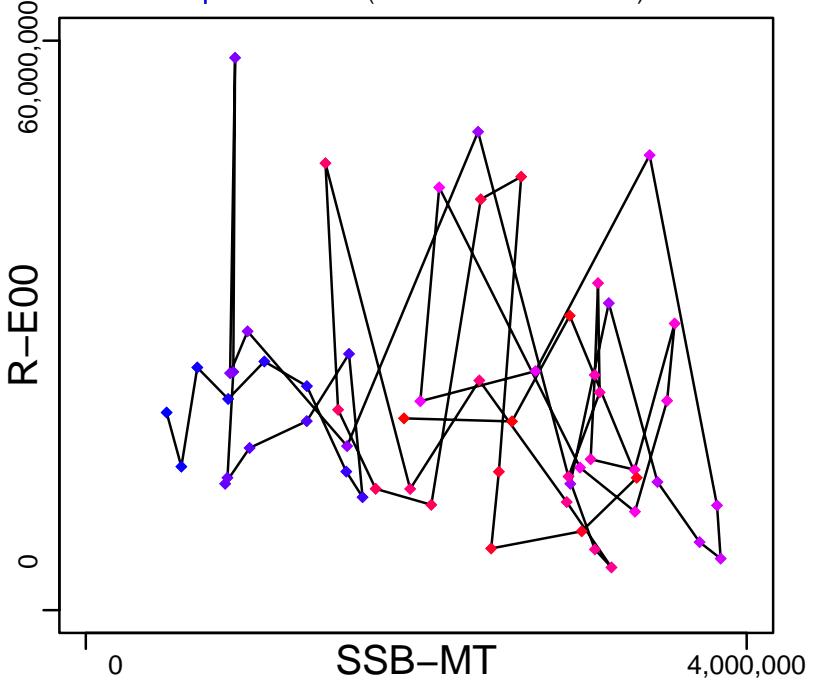
Kobe MSYpref (1963–2021–SISIMP2022)



Kobe MGTpref (1963–2021–SISIMP2022)



Spawner Recruit (1963–2021–SISIMP2022)



Production\*

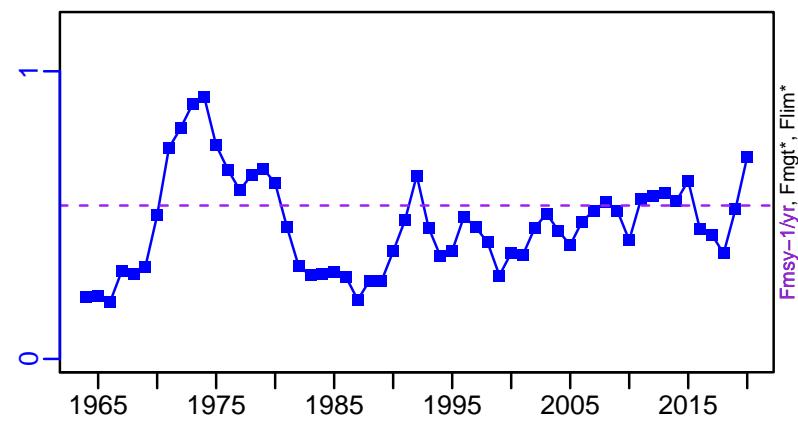
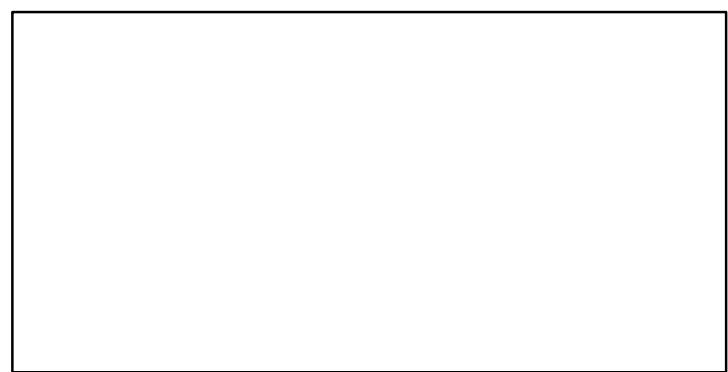
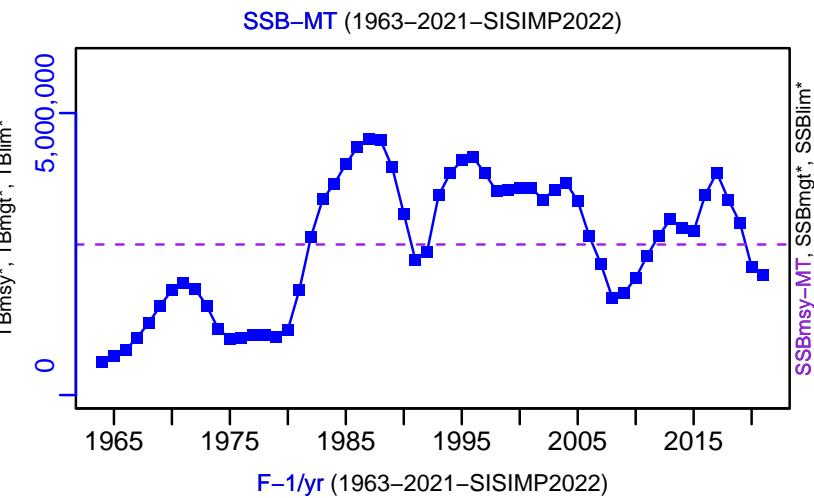
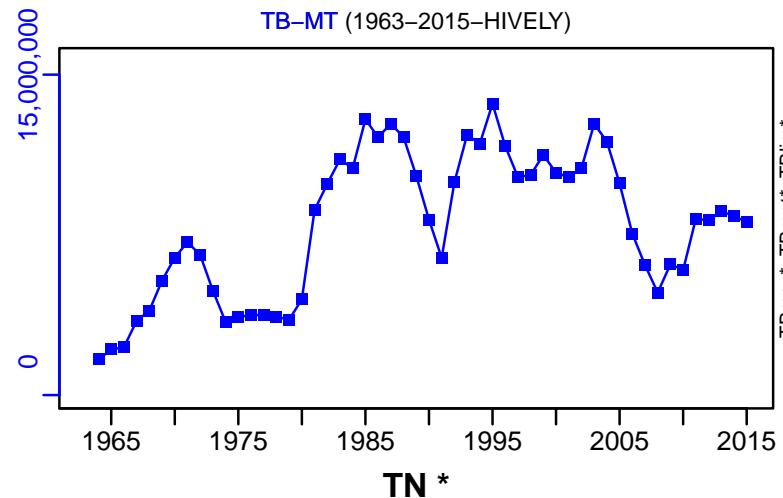


◆ Start Year ◆ End Year \* No Data

Walleye pollock Eastern Bering Sea [WPOLLEBS]

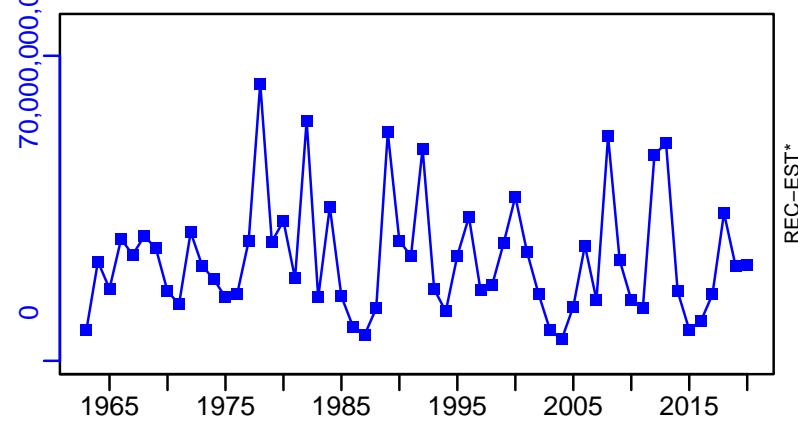
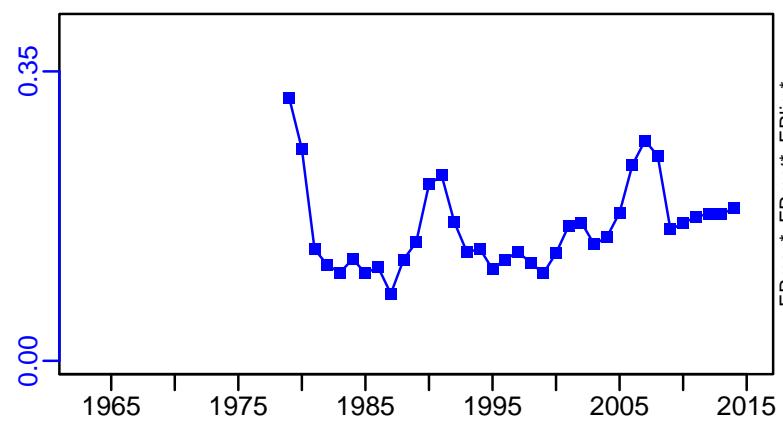
TB-MT (1963–2015-HIVELY)

SSB-MT (1963–2021-SISIMP2022)



ER-calc-ratio (1963–2015-HIVELY)

R-E00 (1963–2021-SISIMP2022)

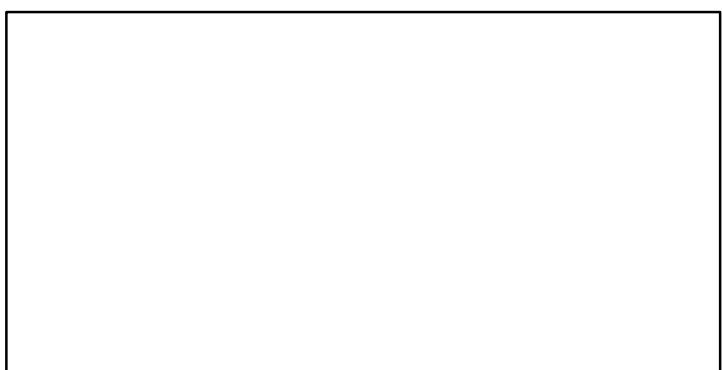
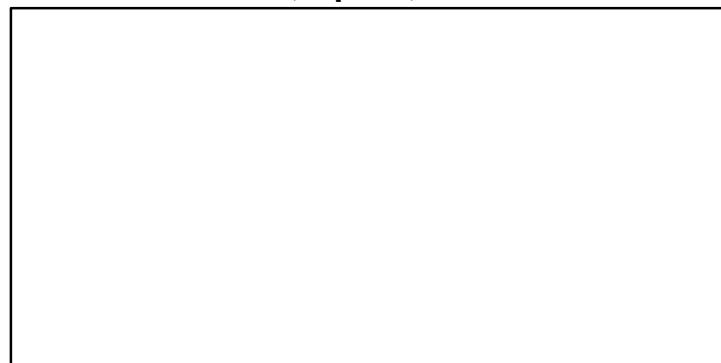
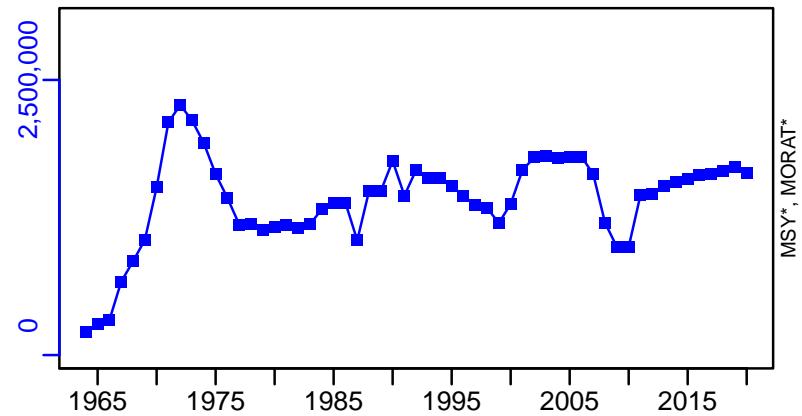


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	--- Lim BRP	* No Data

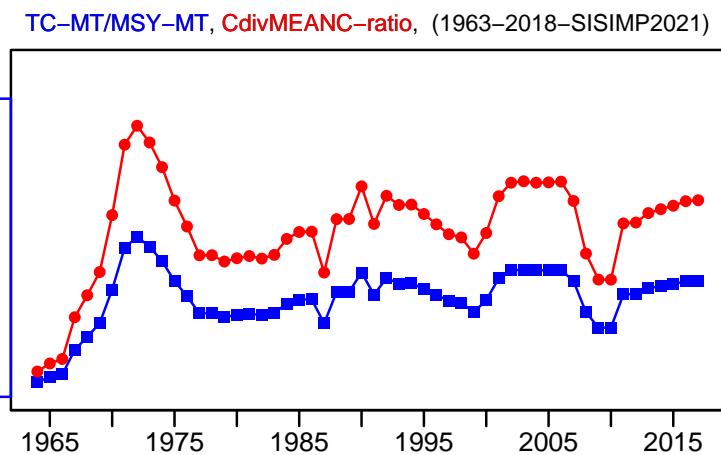
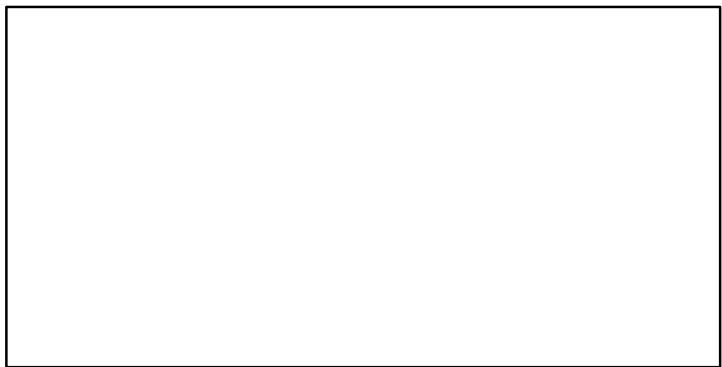
Walleye pollock Eastern Bering Sea [WPOLLEBS]

TC-MT, TL\*, RecC\* (1963–2021–SISIMP2022)

TAC\*, Cpair\*, Cadv\*



**EFFORT\***



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

## Walleye pollock Gulf of Alaska [WPOLLGA]

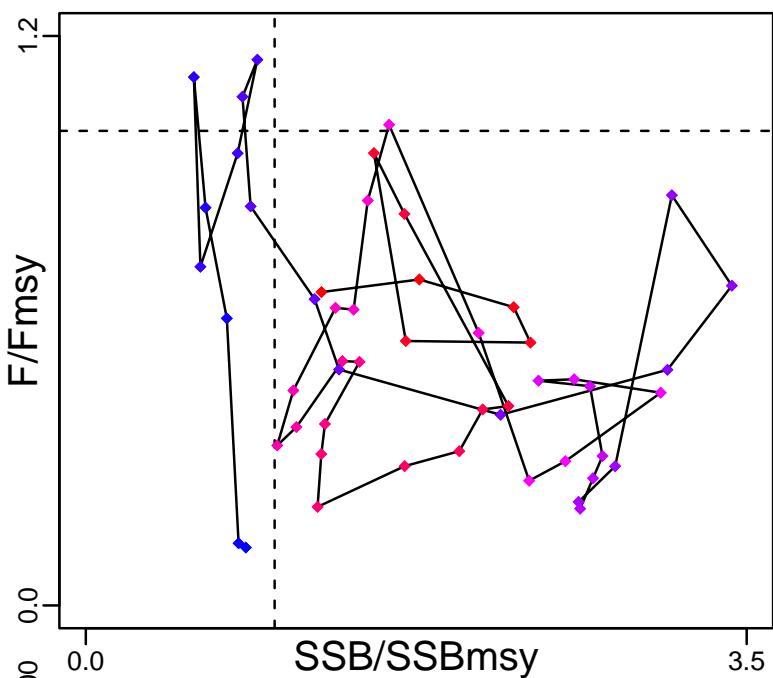
<b>Metadata</b>	
<b>Scientific Name</b>	Theragra chalcogramma
<b>Current Assess ID</b>	AFSC-WPOLLGA-1969-2021-SISIMP2022
<b>Area</b>	Gulf of Alaska
<b>Management Authority</b>	National Marine Fisheries Service, US national management
<b>Assessor</b>	Alaska Fisheries Science Center
<b>Asmts in RAM</b>	2019, 2016, 2017, 2018, 2021, 2014, 2015, 2020

<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	2021	150,500
<b>Fmsy</b>	Fmsy-1/yr	2021	0.31
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2014	312,000
<b>Fmgt</b>	Fmgt-1/yr	2015	0.29
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	M-1/yr	2014	0.3
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	Flim-1/yr	2020	0.378
<b>ERlim</b>	-	-	-

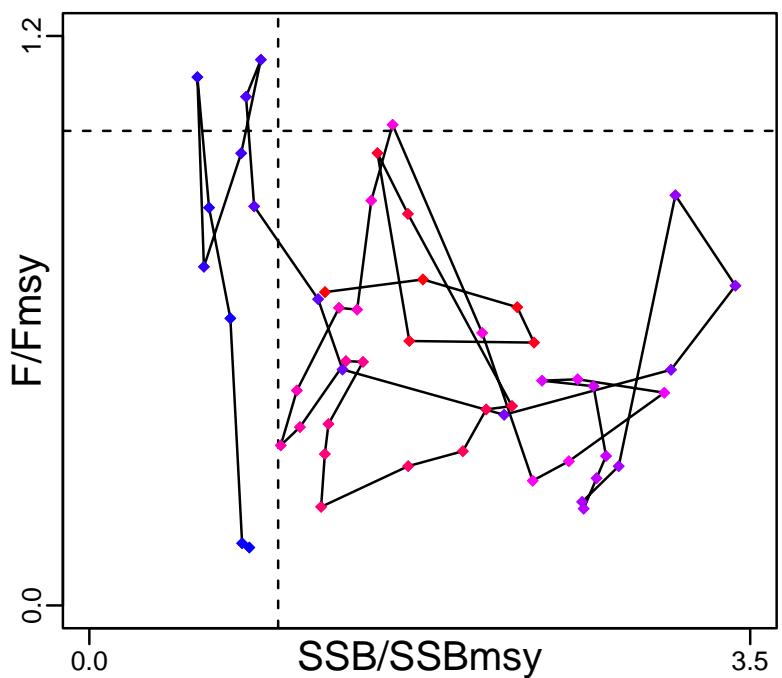
<b>Time Series</b>						
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Curr Value</b>	<b>Sex</b>	<b>Age</b>	
<b>TB</b>	TB-MT	2015	1,730,000	-	3+	
<b>SSB</b>	SSB-MT	2021	197,189	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2021	10,759,599,610	-	1	
<b>F</b>	F-1/yr	2021	0.205	-	-	
<b>ER</b>	ER-calc-ratio	2015	0.127	-	-	
<b>TC</b>	TC-MT	2021	107,471			
<b>TL</b>	-	-	-			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2021	1.31			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2021	0.66			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2014	1.09			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2015	0.838			
<b>ER/ERmgt</b>	-	-	-			

Walleye pollock Gulf of Alaska [WPOLLGA]

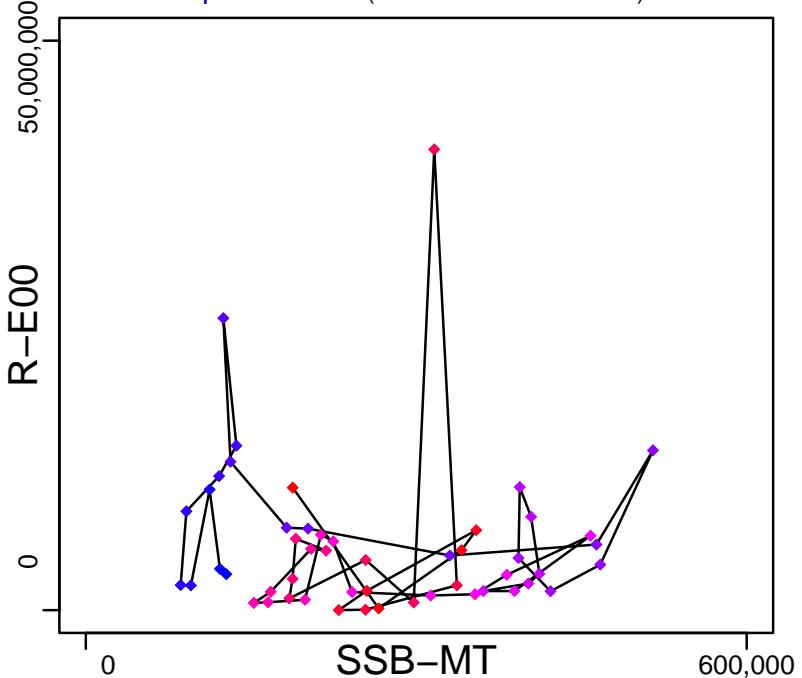
Kobe MSYpref (1969–2021–SISIMP2022)



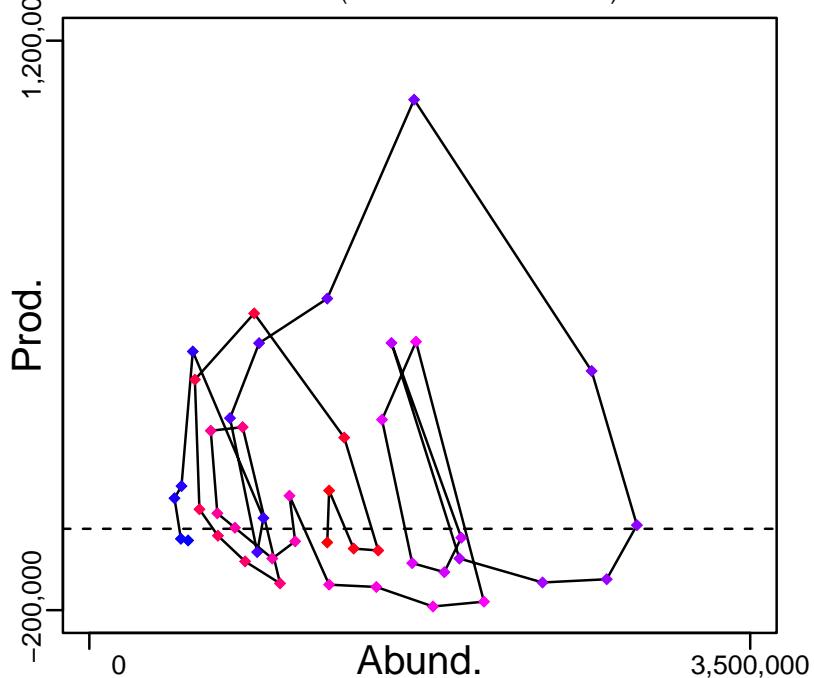
Kobe MGTpref (1969–2021–SISIMP2022)



Spawner Recruit (1969–2021–SISIMP2022)



Production (1970–2015–SISIMP2016)

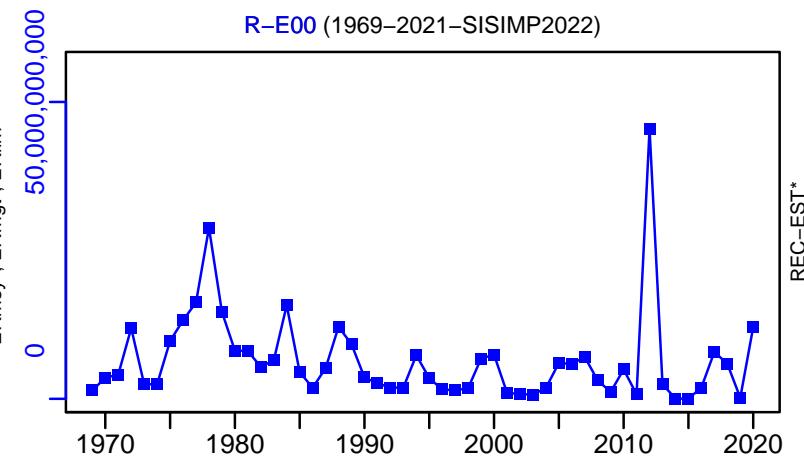
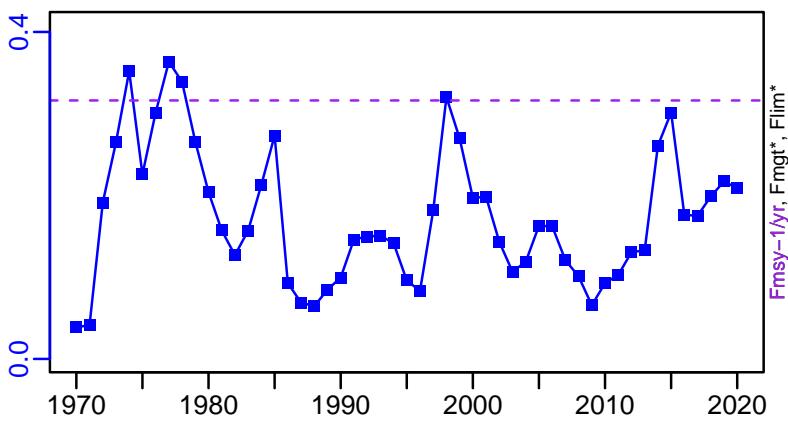
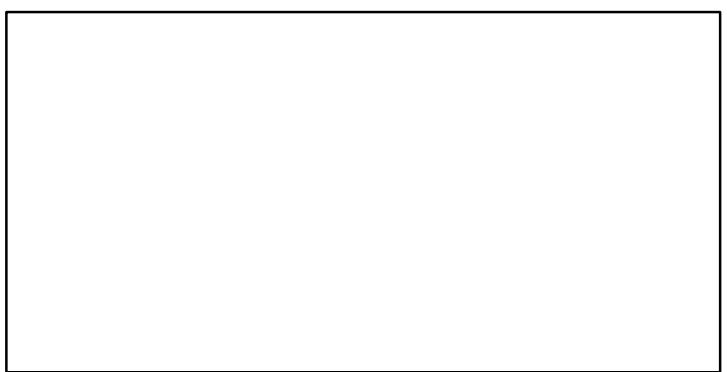
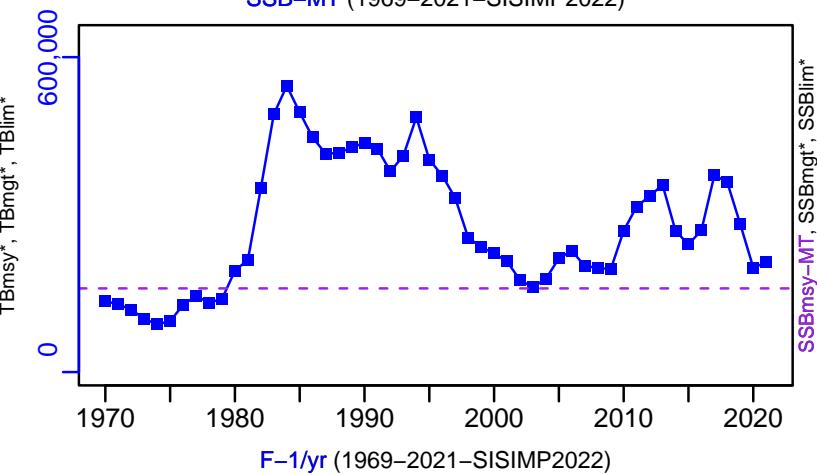
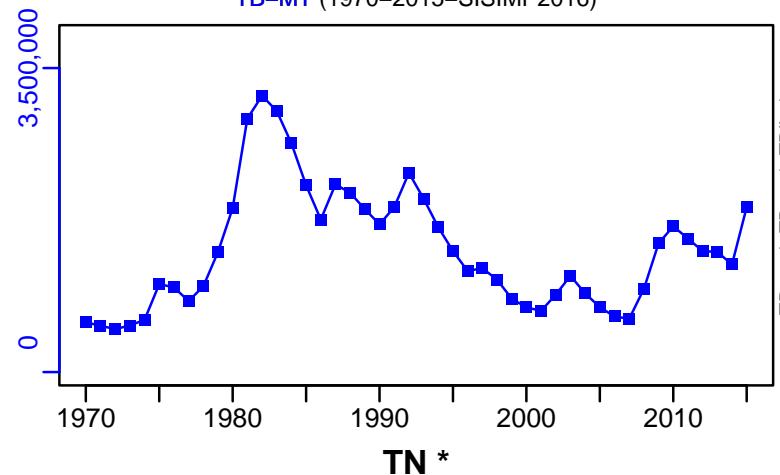


◆ Start Year   ◆ End Year   \* No Data

Walleye pollock Gulf of Alaska [WPOLLGA]

TB-MT (1970–2015–SISIMP2016)

SSB-MT (1969–2021–SISIMP2022)

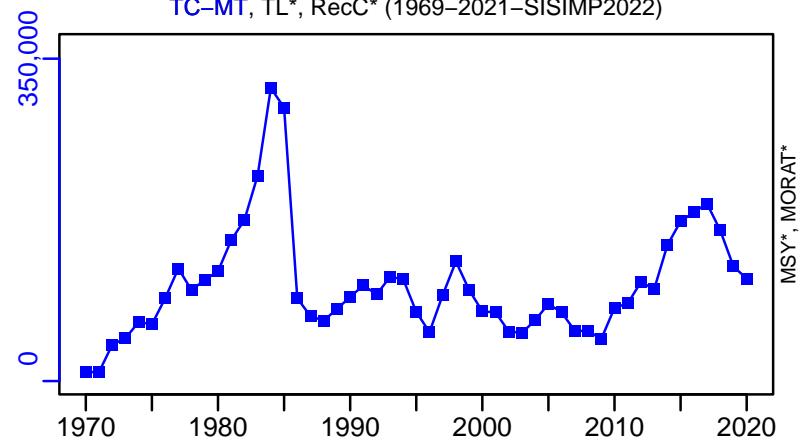


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	- - Lim BRP	* No Data

Walleye pollock Gulf of Alaska [WPOLLGA]

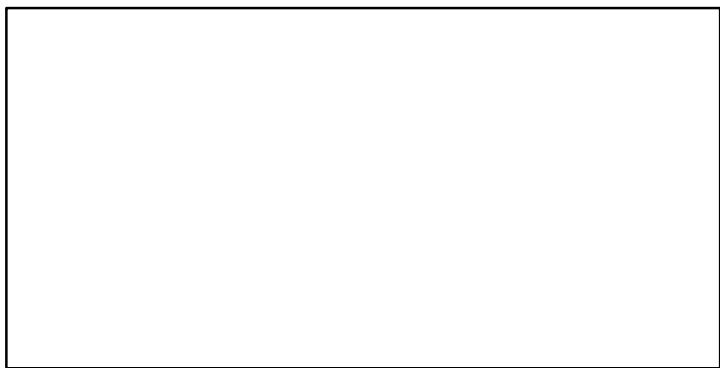
TC-MT, TL\*, RecC\* (1969–2021–SISIMP2022)

TAC\*, Cpair\*, Cadv\*

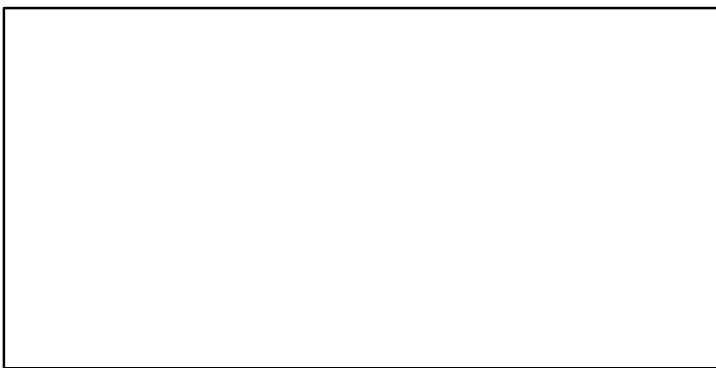


MSY\*, MORAT\*

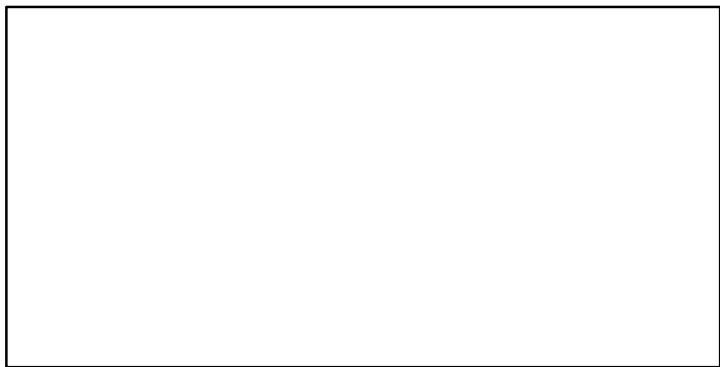
survB\*



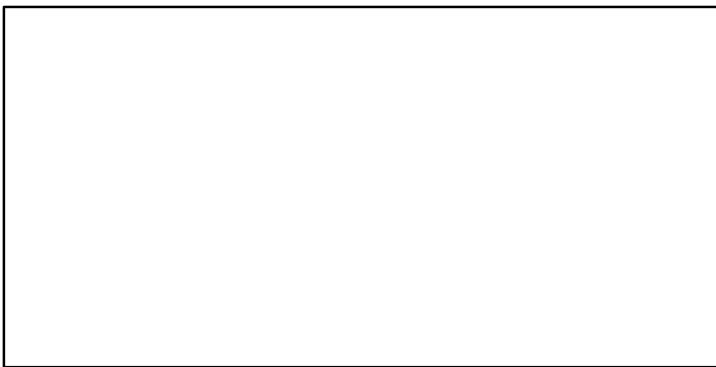
CPUE\*



EFFORT\*



CdivMSY\*



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

## Walleye pollock Navarinsky [WPOLLNAVAR]

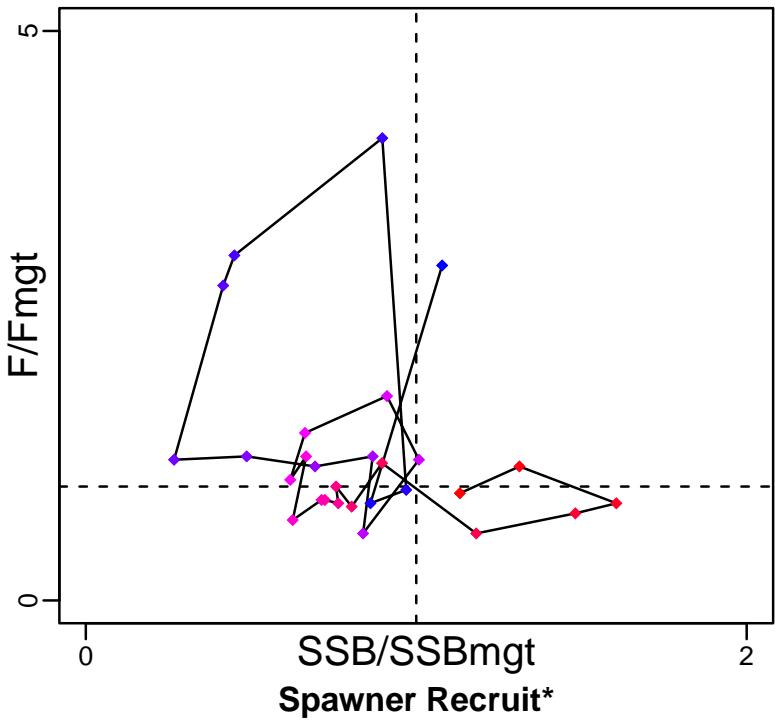
<b>Metadata</b>	
<b>Scientific Name</b>	Theragra chalcogramma
<b>Current Assess ID</b>	VNIRO-WPOLLNAVAR-1984-2023-HIVELY
<b>Area</b>	Navarinsky
<b>Management Authority</b>	Russian Federal Fisheries Agency, Russia national management
<b>Assessor</b>	Russian Federal Research Institute of Fisheries and Oceanography
<b>Asmts in RAM</b>	2015, 2020, 2023, 2004

<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	TBmsy-MT	2004	1,570,000
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2004	0.235
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2023	1,478,951
<b>Fmgt</b>	Fmgt-1/yr	2023	0.34
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2023	900,060
<b>Flim</b>	Flim-1/yr	2020	0.514
<b>ERlim</b>	-	-	-

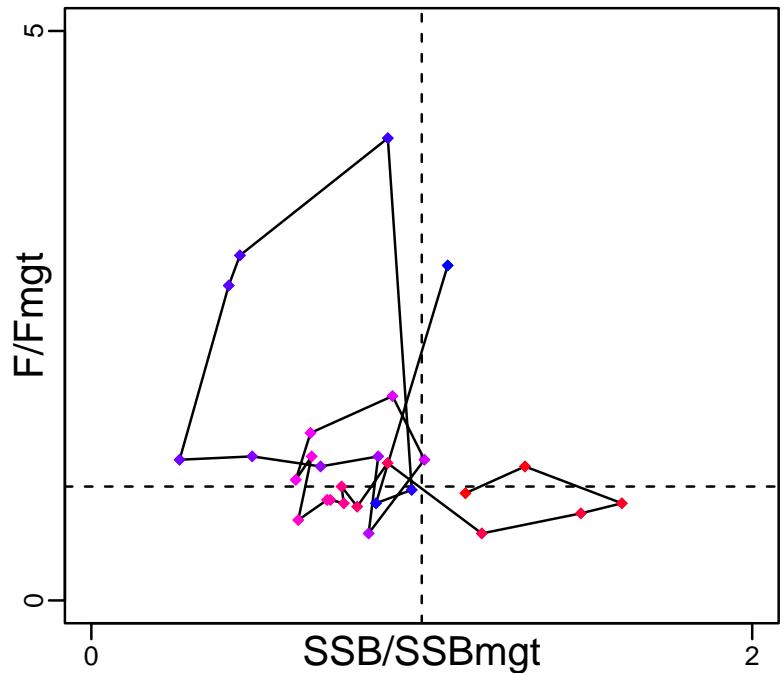
<b>Time Series</b>						
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Curr Value</b>	<b>Sex</b>	<b>Age</b>	
<b>TB</b>	TB-MT	2004	1,600,000	-	2+	
<b>SSB</b>	SSB-MT	2023	1,542,450	-	-	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	-	-	-	-	-	
<b>F</b>	F-1/yr	2023	0.32	-	-	
<b>ER</b>	ER-ratio	2004	0.237	-	-	
<b>TC</b>	TC-MT	2023	352,809			
<b>TL</b>	TL-MT	2015	310,000			
<b>TB/TBmsy</b>	TB-MT/TBmsy-MT	2004	1.019			
<b>SSB/SSBmsy</b>	-	-	-			
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2004	1.064			
<b>ER/ERmsy</b>	-	-	-			
<b>TB/TBmgt</b>	-	-	-			
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2023	1.043			
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2023	0.941			
<b>ER/ERmgt</b>	-	-	-			

**Walleye pollock Navarinsky [WPOLLNAVAR]**

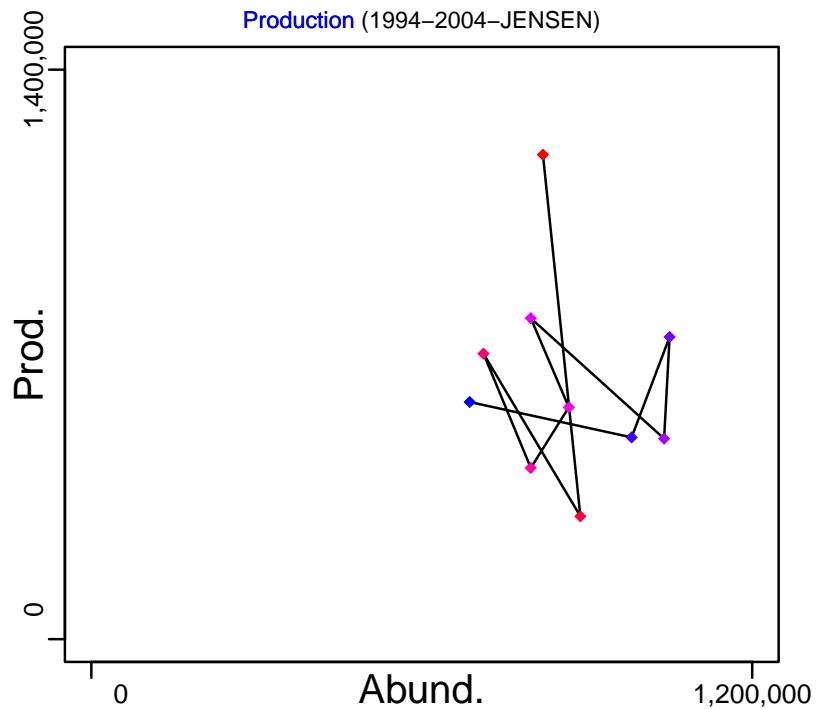
Kobe MSYpref (1984–2023–HIVELY)



Kobe MGTPref (1984–2023–HIVELY)



Production (1994–2004–JENSEN)

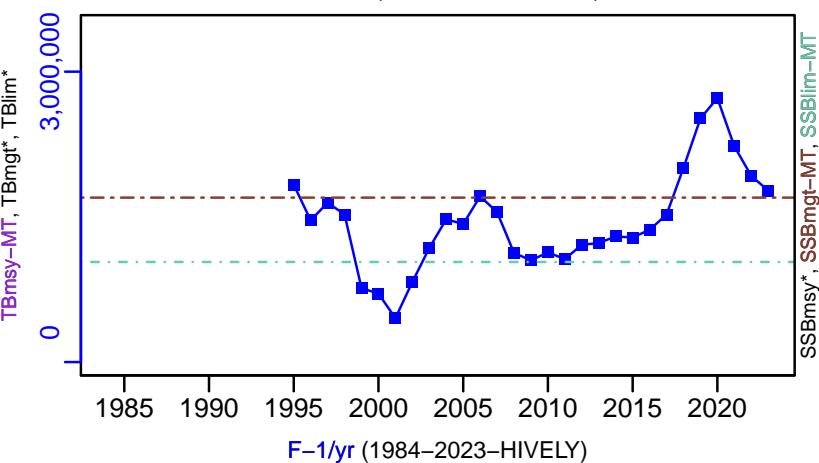
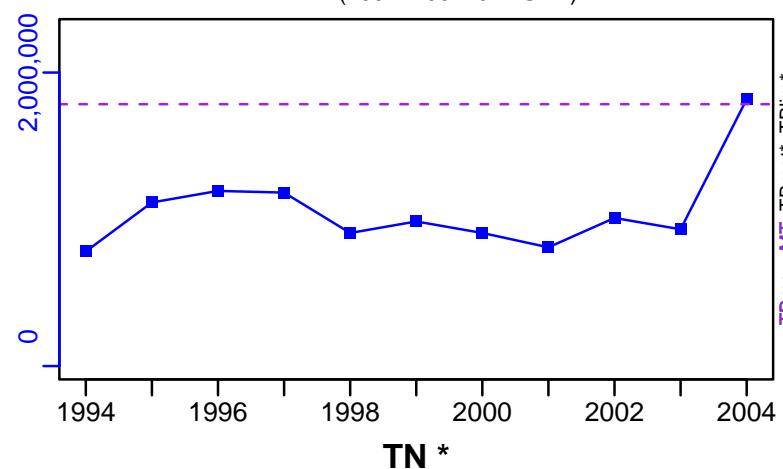


◆ Start Year   ◆ End Year   \* No Data

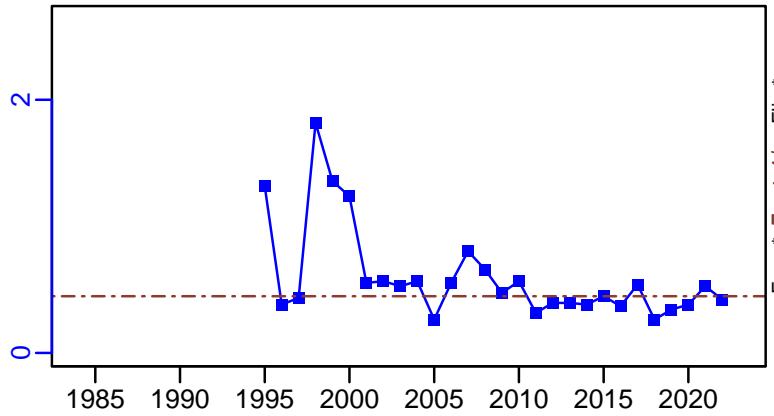
**Walleye pollock Navarinsky [WPOLLNAVAR]**

TB-MT (1994–2004–JENSEN)

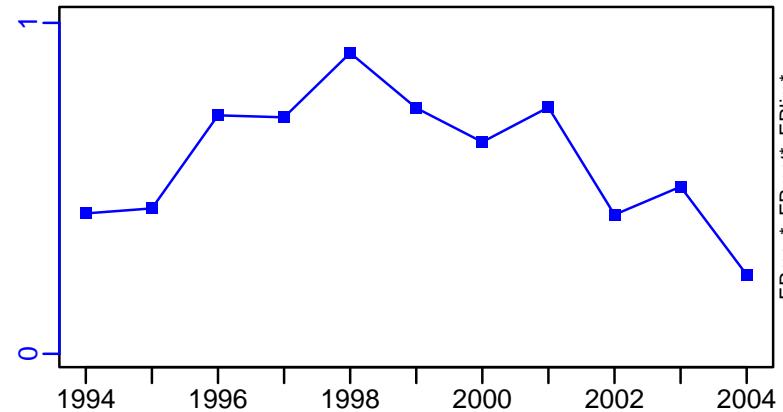
SSB-MT (1984–2023–HIVELY)



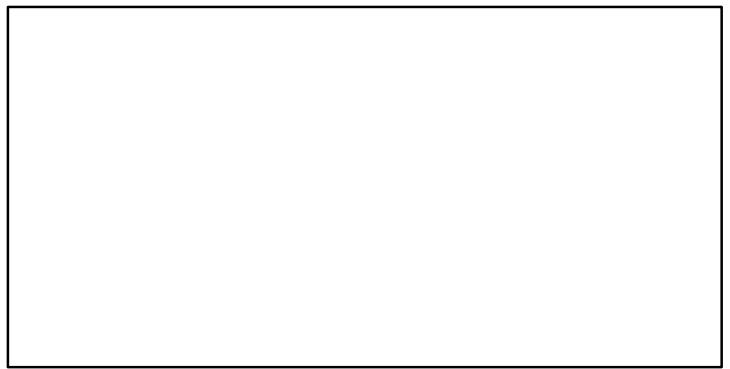
TN \*



ER-ratio (1994–2004–JENSEN)



Recruits\*

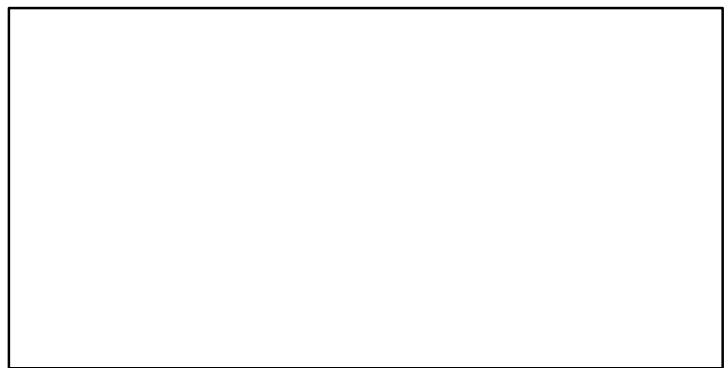
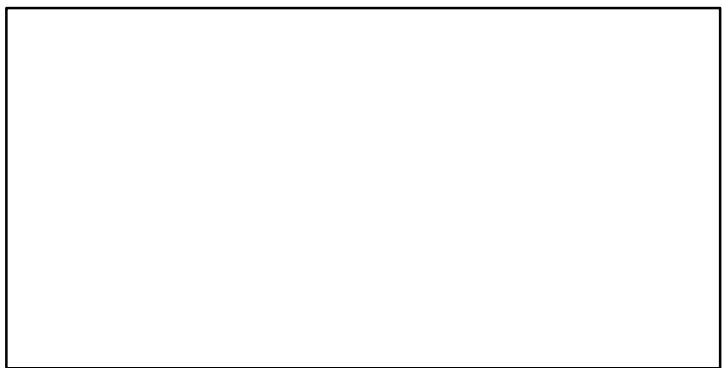
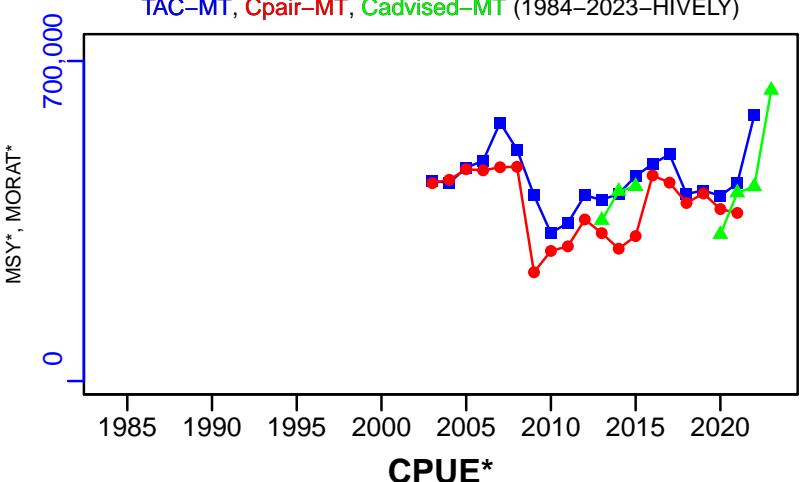
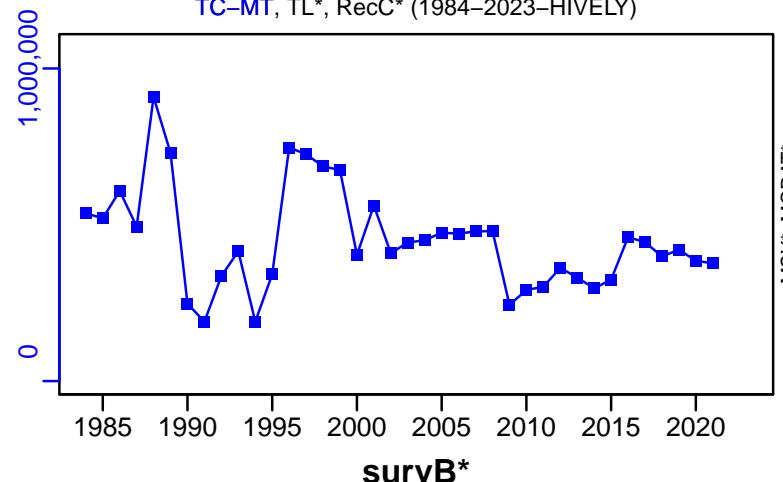


■ Listed time series	— Target BRP	— Rec-Est
— MSY-based BRP	— Lim BRP	* No Data

**Walleye pollock Navarinsky [WPOLLNAVAR]**

TC-MT, TL\*, RecC\* (1984–2023-HIVELY)

TAC-MT, Cpair-MT, Cadvised-MT (1984–2023-HIVELY)



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

## Walleye pollock Northern Sea of Okhotsk [WPOLLNSO]

<b>Metadata</b>	
<b>Scientific Name</b>	Theragra chalcogramma
<b>Current Assess ID</b>	VNIRO-WPOLLNSO-1963-2023-HIVELY
<b>Area</b>	Northern Sea of Okhotsk
<b>Management Authority</b>	Russian Federal Fisheries Agency, Russia national management
<b>Assessor</b>	Russian Federal Research Institute of Fisheries and Oceanography
<b>Asmts in RAM</b>	2012, 2017, 2020, 2023

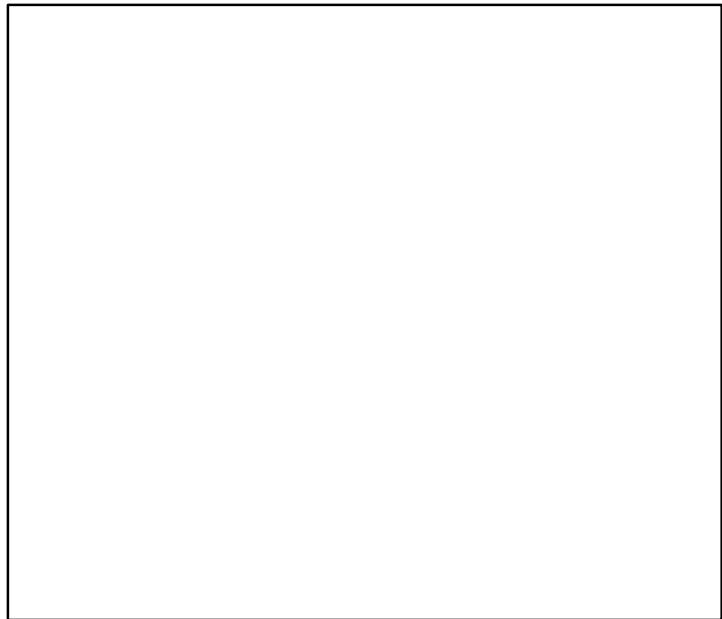
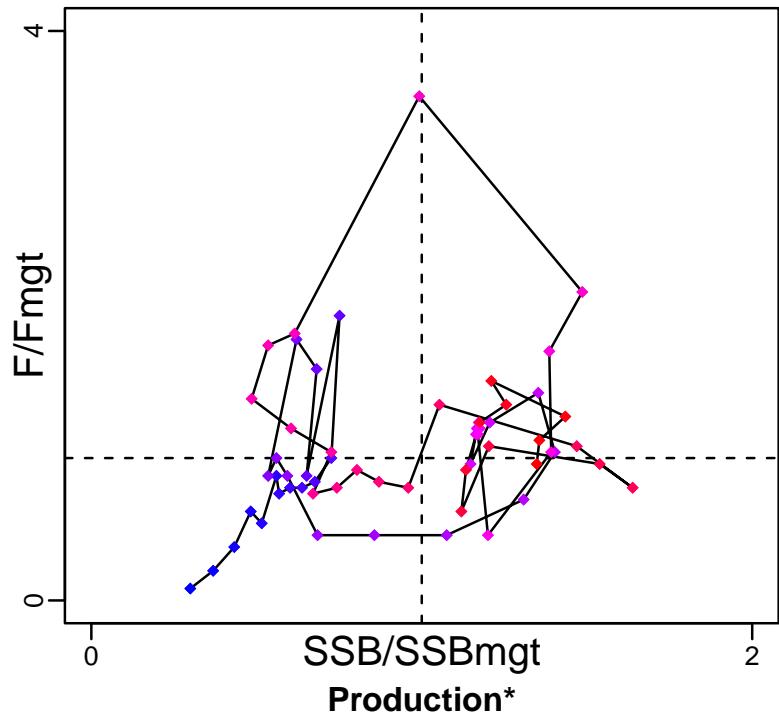
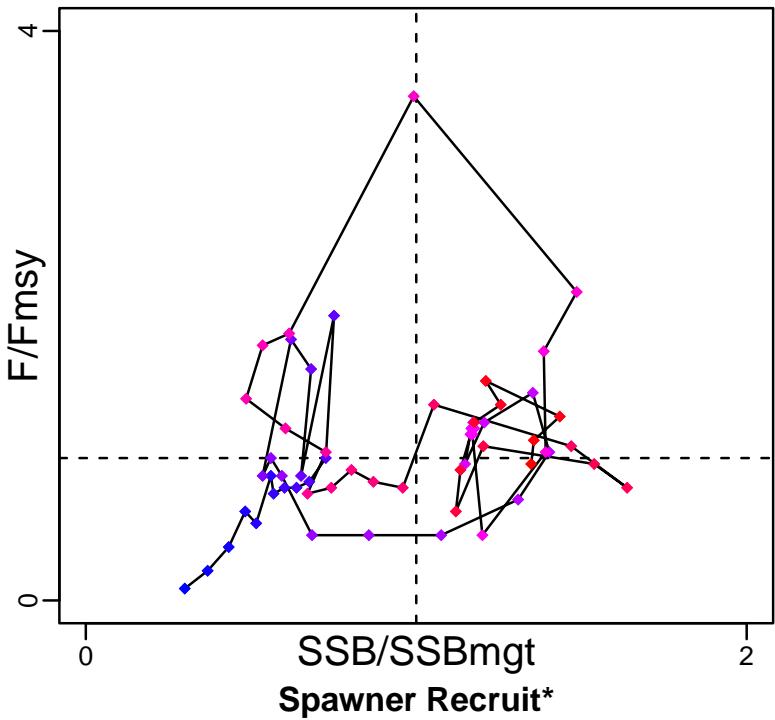
<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<b>TBmsy</b>	TBmsy-MT	2012	5,100,000
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	Fmsy-1/yr	2023	0.24
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2023	5,089,000
<b>Fmgt</b>	Fmgt-1/yr	2023	0.24
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-MT	2017	966,700
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2023	2,583,000
<b>Flim</b>	Flim-1/yr	2023	0.31
<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	2012	7,020,000	-	-
<b>SSB</b>	SSB-MT	2023	5,500,000	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	F-1/yr	2023	0.23	-	-
<b>ER</b>	ER-calc-ratio	2012	0.091	-	-
<b>TC</b>	TC-MT	2023	969,560		
<b>TL</b>	TL-MT	2017	883,000		
<b>TB/TBmsy</b>	TB-MT/TBmsy-MT	2012	1.376		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	F-1/yr/Fmsy-1/yr	2023	0.958		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2023	1.081		
<b>F/Fmgt</b>	F-1/yr/Fmgt-1/yr	2023	0.958		
<b>ER/ERmgt</b>	-	-	-		

Walleye pollock Northern Sea of Okhotsk [WPOLLNSO]

Kobe MSYpref (1963–2023–HIVELY)

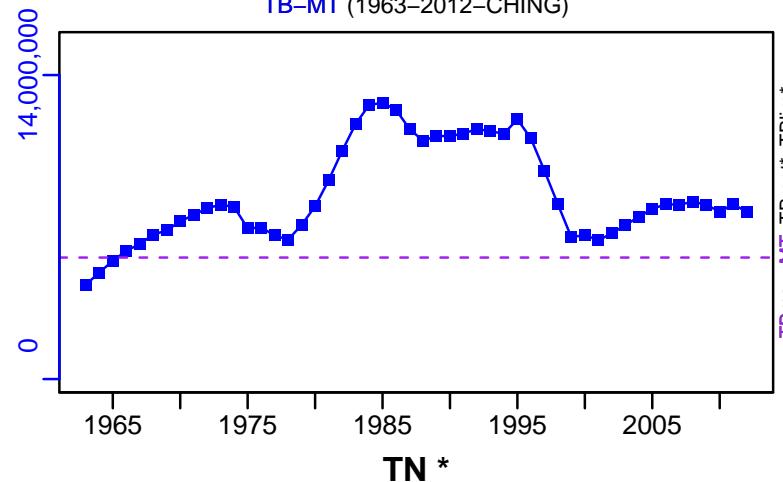
Kobe MGTPref (1963–2023–HIVELY)



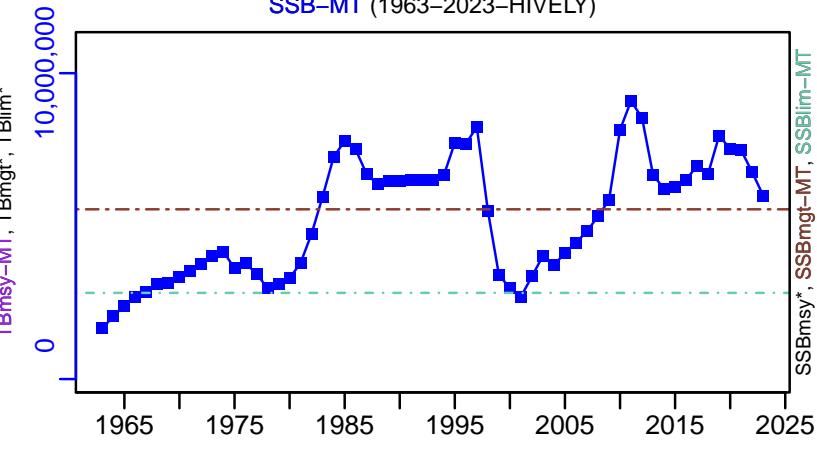
◆ Start Year	◆ End Year	*	No Data
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Walleye pollock Northern Sea of Okhotsk [WPOLLNSO]

TB-MT (1963–2012-CHING)



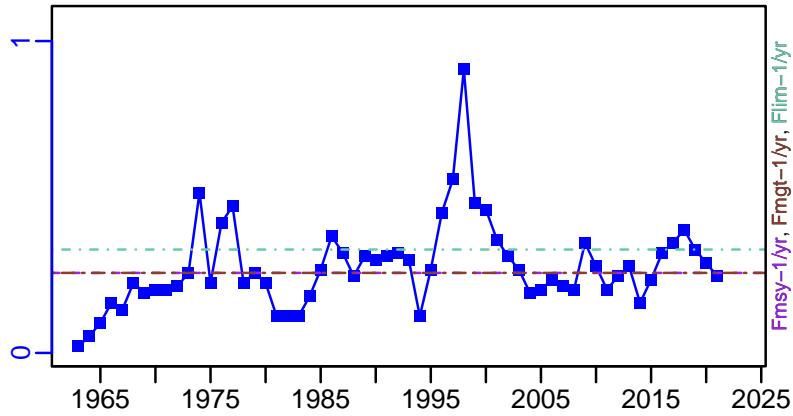
SSB-MT (1963–2023-HIVELY)



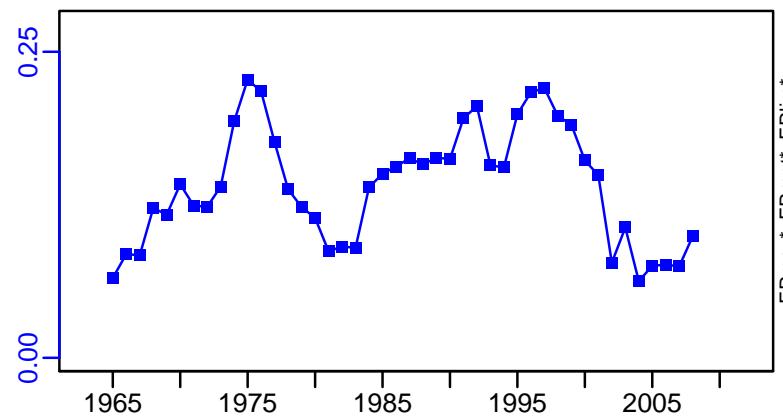
TN \*



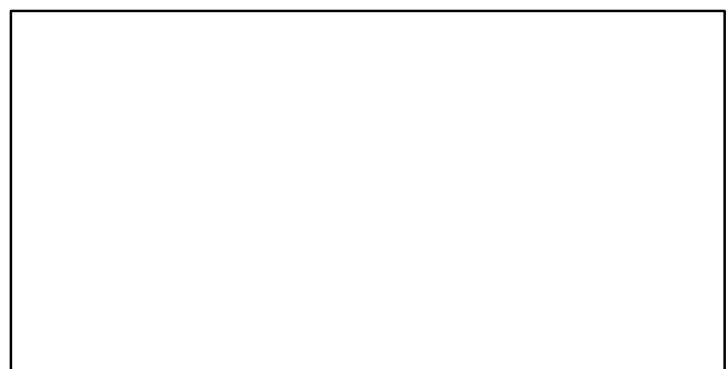
F-1/yr (1963–2023-HIVELY)



ER-calc-ratio (1963–2012-CHING)



Recruits\*



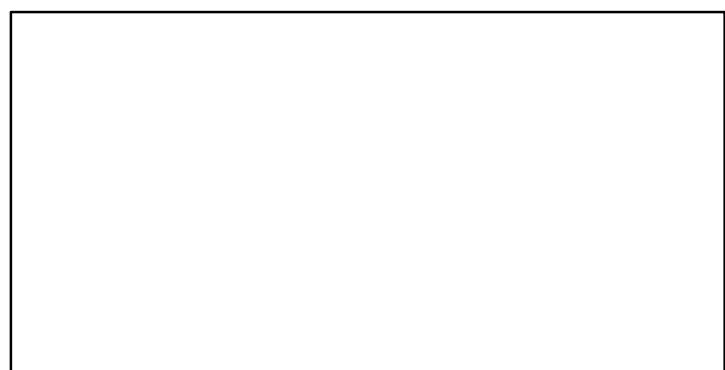
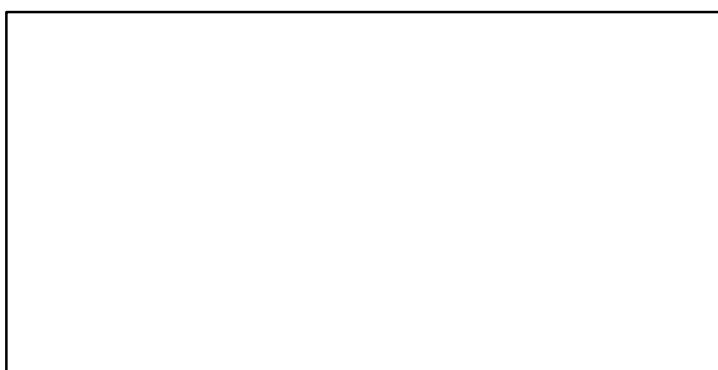
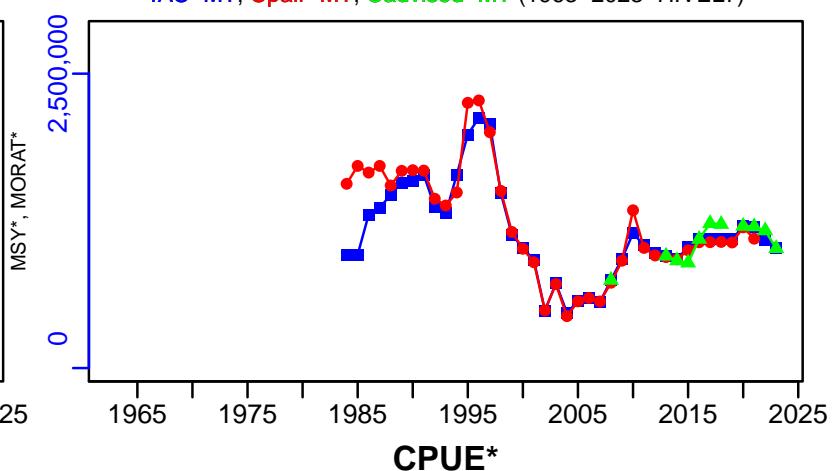
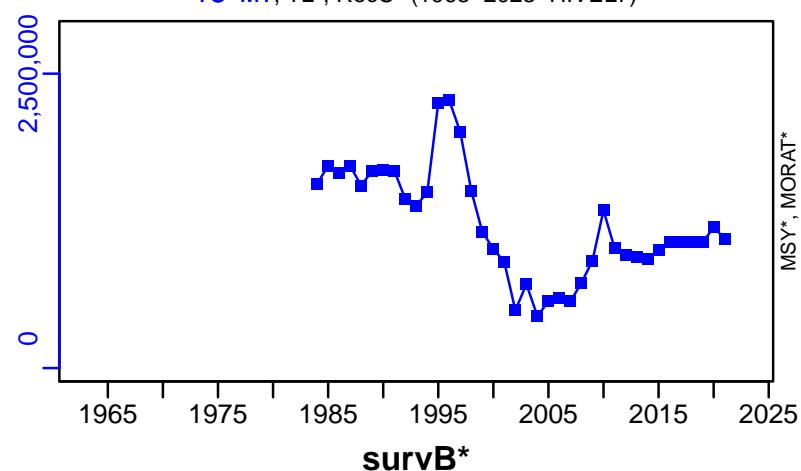
ER<sub>MSY</sub>\* , ER<sub>Mgt</sub>\* , ER<sub>Lim</sub>\*

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

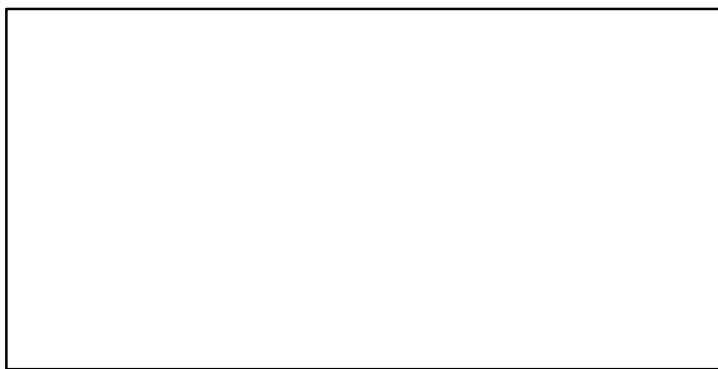
Walleye pollock Northern Sea of Okhotsk [WPOLLNSO]

TC-MT, TL\*, RecC\* (1963–2023-HIVELY)

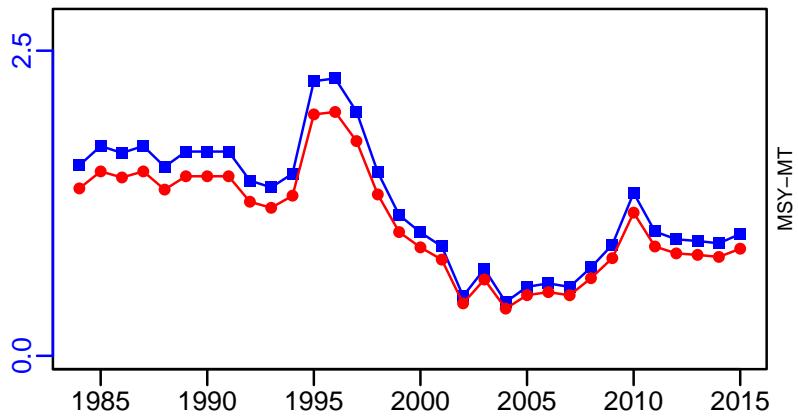
TAC-MT, Cpair-MT, Cadvised-MT (1963–2023-HIVELY)



EFFORT\*



TL-MT/MSY-MT, CdivMEANC-ratio, (1963–2017-ASHBROOK)



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

## Walleye pollock Southeast Gulf of Alaska [WPOLLSEGA]

Metadata	
<b>Scientific Name</b>	Theragra chalcogramma
<b>Current Assess ID</b>	AFSC-WPOLLSEGA-1993-2019-SISIMP2021-2
<b>Area</b>	Southeast Gulf of Alaska
<b>Management Authority</b>	National Marine Fisheries Service, US national management
<b>Assessor</b>	Alaska Fisheries Science Center
<b>Asmts in RAM</b>	2018, 2019

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>	-	-	-
<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>	-	-	-	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	-	-	-	-	-
<b>TC</b>	TC-MT	2019	3		
<b>TL</b>	-	-	-		
<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>	-	-	-		

Walleye pollock Southeast Gulf of Alaska [WPOLLSEGA]

**Kobe MSY\***

**Kobe MGT\***

**Spawner Recruit\***

**Production\***

◆ Start Year ♦ End Year \* No Data

Walleye pollock Southeast Gulf of Alaska [WPOLLSEGA]

**TB\***



**SSB\***



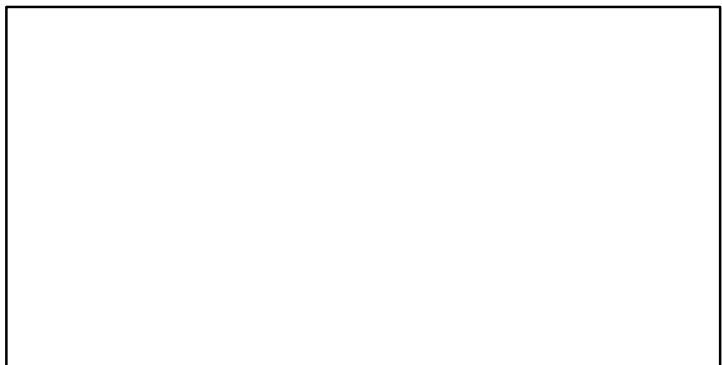
**TN \***



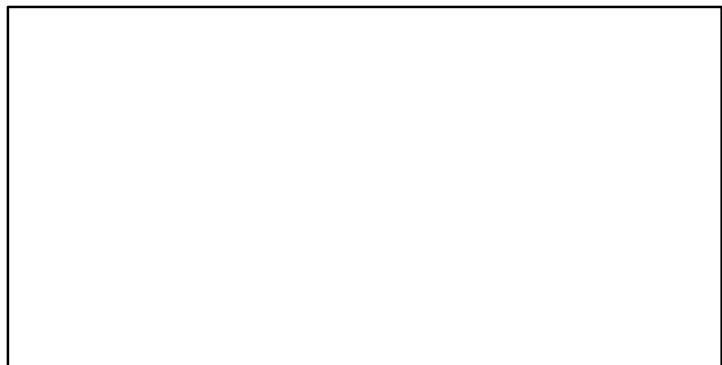
**F\***



**ER\***



**Recruits\***

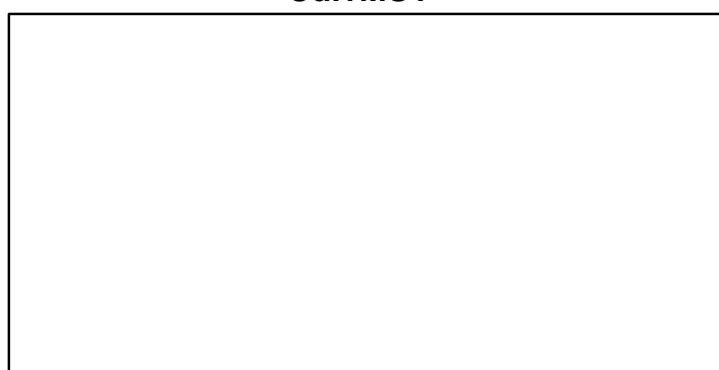
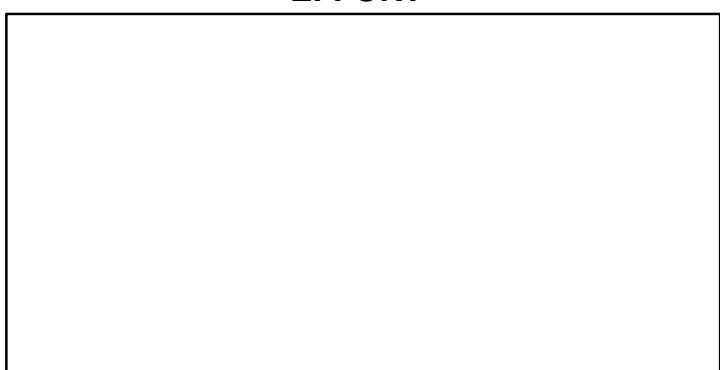
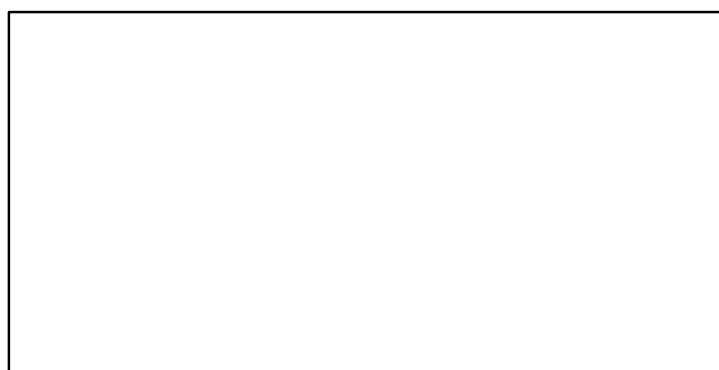
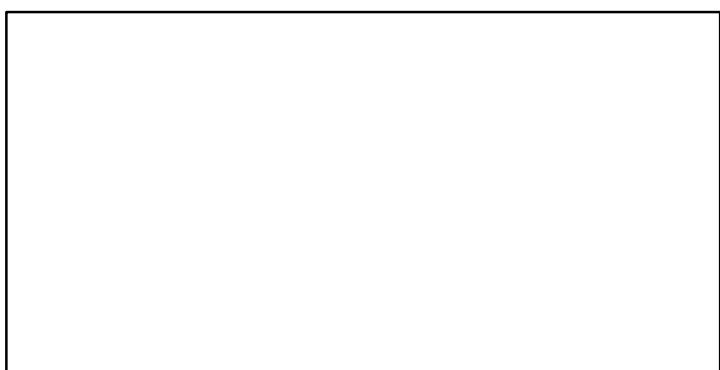
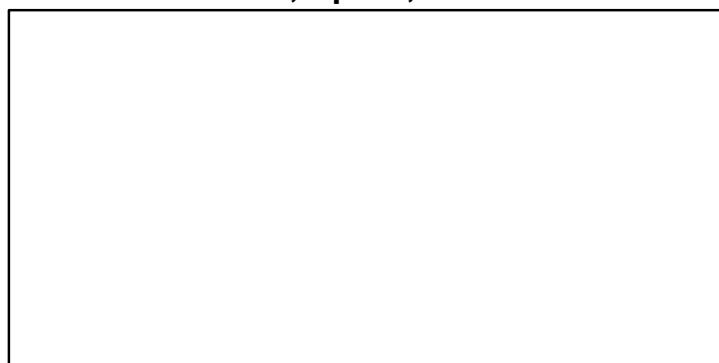
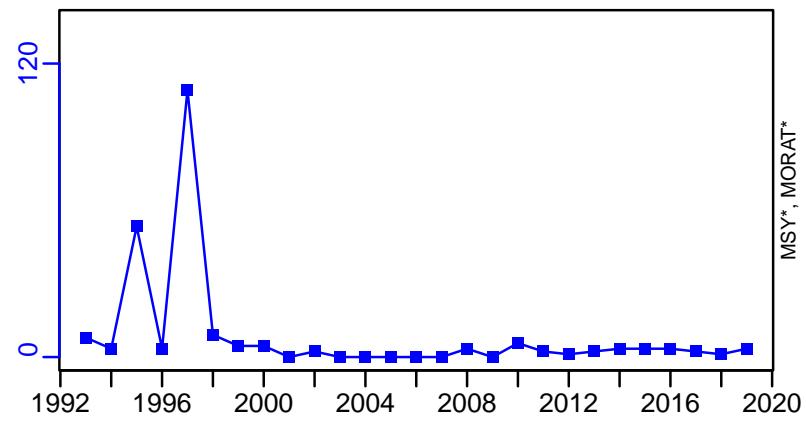


- |                      |                  |           |
|----------------------|------------------|-----------|
| ■ Listed time series | - - - Target BRP | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP    | * No Data |

Walleye pollock Southeast Gulf of Alaska [WPOLLSEGA]

TC-MT, TL\*, RecC\* (1993–2019–SISIMP2021–2)

TAC\*, Cpair\*, Cadv\*



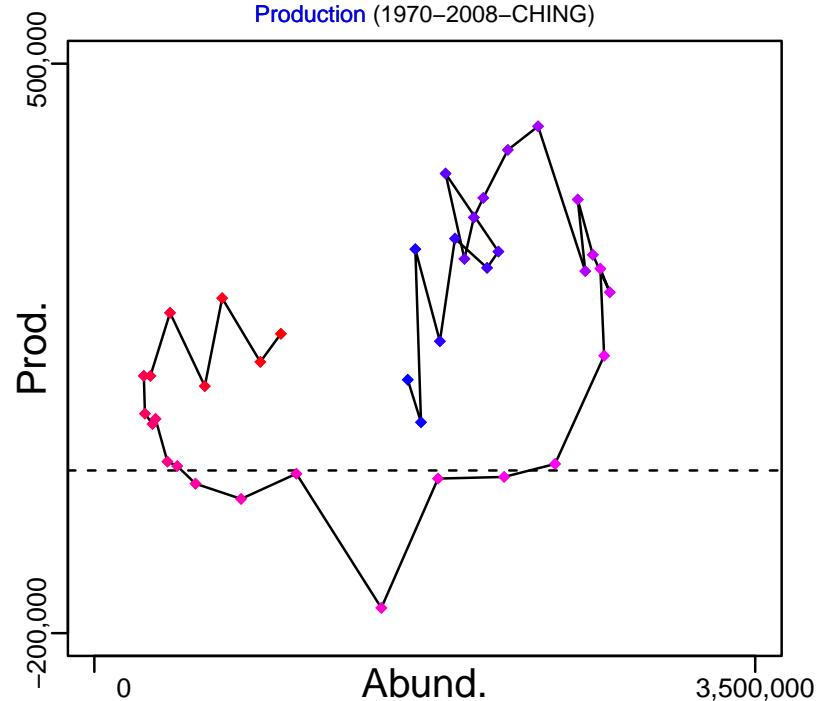
- |                          |                          |           |
|--------------------------|--------------------------|-----------|
| ■ 1st listed time series | ▲ 3rd listed time series | — MORAT   |
| ● 2nd listed time series | - - MSY                  | * No Data |

## Walleye pollock Western Bering Sea [WPOLLWBS]

<b>Metadata</b>	
<b>Scientific Name</b>	Theragra chalcogramma
<b>Current Assess ID</b>	VNIRO-WPOLLWBS-1970-2021-HIVELY
<b>Area</b>	Western Bering Sea
<b>Management Authority</b>	Russian Federal Fisheries Agency, Russia national management
<b>Assessor</b>	Russian Federal Research Institute of Fisheries and Oceanography
<b>Asmts in RAM</b>	2008, 2016, 2020, 2021

<b>Reference Points</b>			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	SSBmsy-MT	2008	362,000
<b>Fmsy</b>	Fmsy-1/yr	2008	0.126
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2021	362,900
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	SSBlim-MT	2021	145,900
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

<b>Time Series</b>					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2008	954,000	-	-
<b>SSB</b>	SSB-MT	2021	223,900	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-calc-ratio	2008	0.108	-	-
<b>TC</b>	TC-MT	2021	22,000		
<b>TL</b>	TL-MT	2016	15,100		
<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	2021	0.617		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

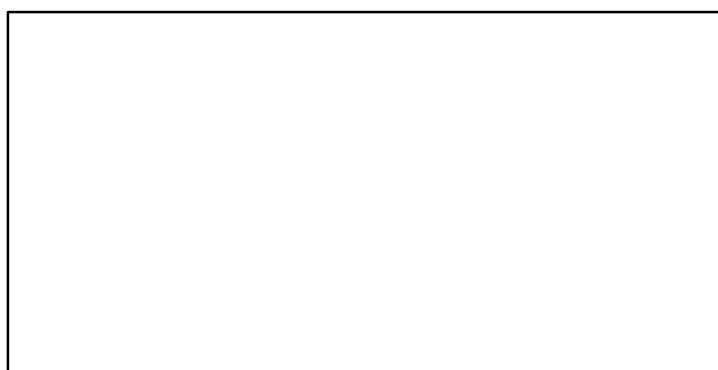
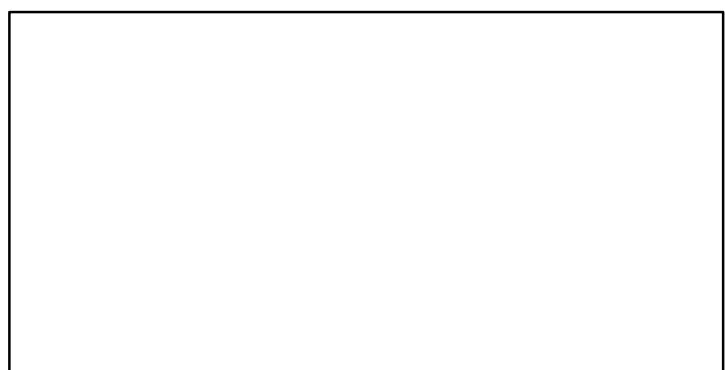
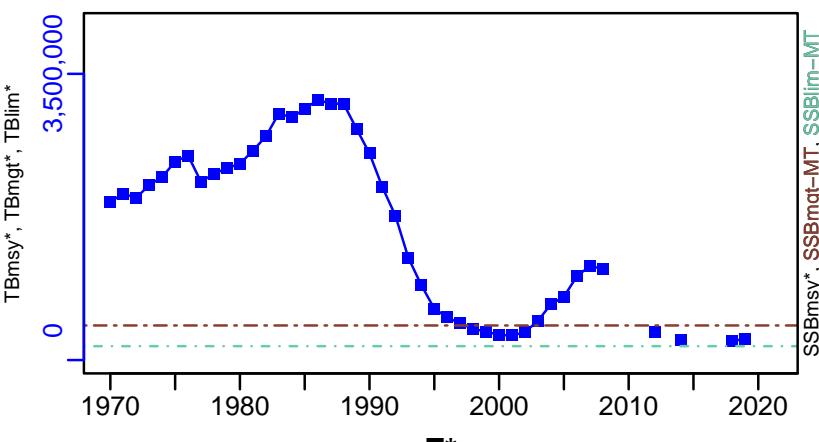
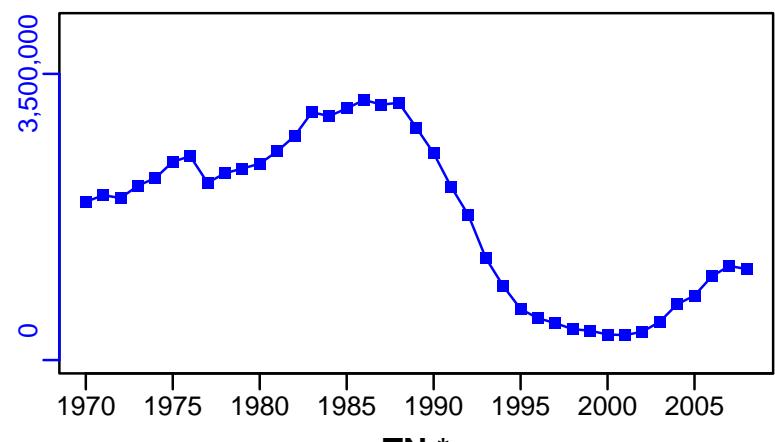
**Kobe MSY\*****Kobe MGT\*****Spawner Recruit\*****Production (1970–2008–CHING)**

◆ Start Year   ◆ End Year   \* No Data

Walleye pollock Western Bering Sea [WPOLLWBS]

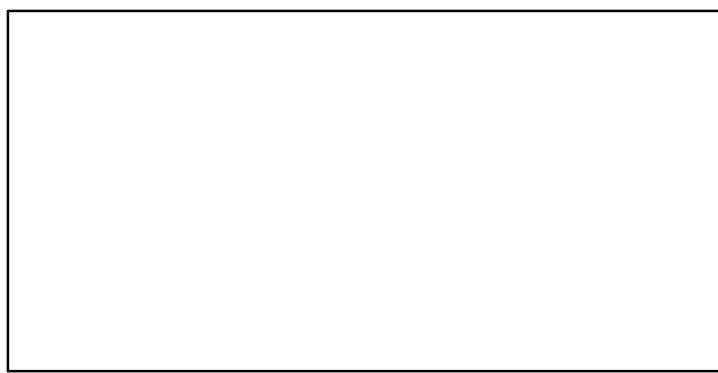
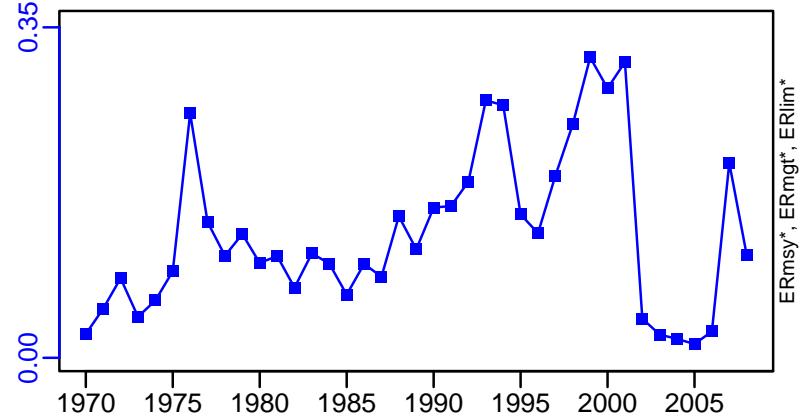
TB-MT (1970–2008–CHING)

SSB-MT (1970–2021–HIVELY)



ER-calc-ratio (1970–2008–CHING)

Recruits\*

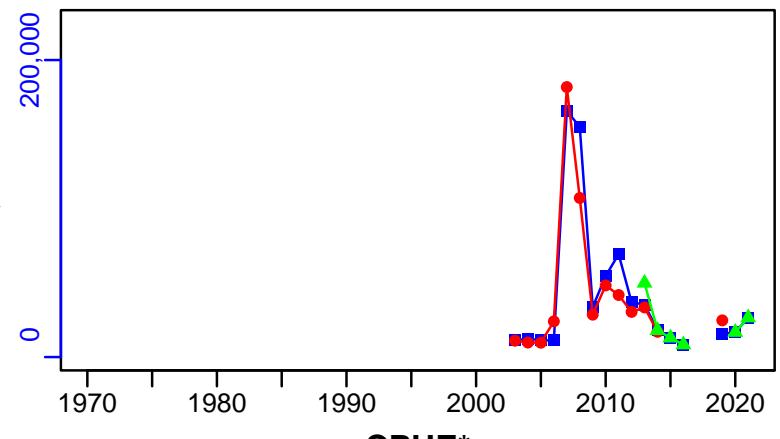
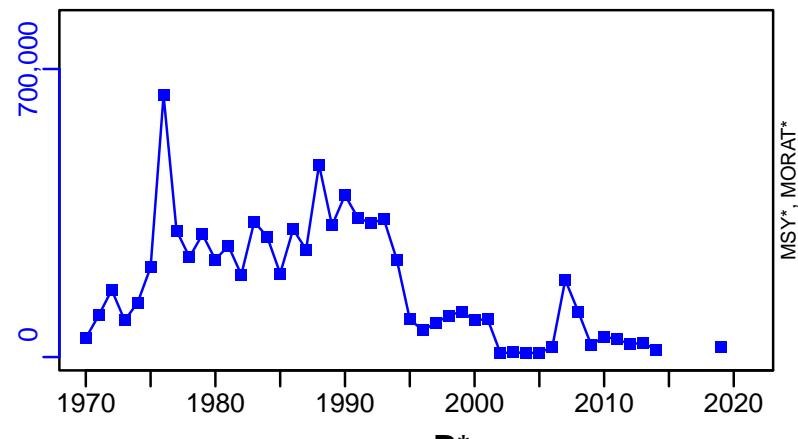


■ Listed time series	— Target BRP	— Rec-Est
— MSY-based BRP	··· Lim BRP	* No Data

**Walleye pollock Western Bering Sea [WPOLLWBS]**

TC-MT, TL\*, RecC\* (1970–2021-HIVELY)

TAC-MT, Cpair-MT, Cadvised-MT (1970–2021-HIVELY)



EFFORT\*

CdivMSY\*

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