

# Atlantic Ocean Stocks

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

Not present Present Preferred

| Stock  | Time Series Types |        |        |         |
|--|-------------------|--------|--------|---------|
|  | B/Bmsy            | U/Umsy | B/Bmgt | U/Umgmt |
| 1. ALBANATL [Albacore tuna North Atlantic]     | TB SSB            | ER F   | TB SSB | ER F    |
| 2. ALBASATL [Albacore tuna South Atlantic]     | TB SSB            | ER F   | TB SSB | ER F    |
| 3. ATBTUNAEATL [Bluefin tuna Eastern Atlantic] | TB SSB            | ER F   | TB SSB | ER F    |
| 4. ATBTUNAWATL [Bluefin tuna Western Atlantic] | TB SSB            | ER F   | TB SSB | ER F    |
| 5. BIGEYEATL [Bigeye tuna Atlantic]            | TB SSB            | ER F   | TB SSB | ER F    |
| 6. BMARLINATL [Blue marlin Atlantic]           | TB SSB            | ER F   | TB SSB | ER F    |
| 7. SAILEATL [Sailfish Eastern Atlantic]        | TB SSB            | ER F   | TB SSB | ER F    |
| 8. SAILWATL [Sailfish Western Atlantic]        | TB SSB            | ER F   | TB SSB | ER F    |
| 9. SKJEATL [Skipjack tuna Eastern Atlantic]    | TB SSB            | ER F   | TB SSB | ER F    |
| 10. SKJWATL [Skipjack tuna Western Atlantic]   | TB SSB            | ER F   | TB SSB | ER F    |
| 11. SWORDNATL [Swordfish North Atlantic]       | TB SSB            | ER F   | TB SSB | ER F    |
| 12. SWORDSATL [Swordfish South Atlantic]       | TB SSB            | ER F   | TB SSB | ER F    |
| 13. WMARLINATL [White marlin Atlantic]         | TB SSB            | ER F   | TB SSB | ER F    |
| 14. YFINATL [Yellowfin tuna Atlantic]          | TB SSB            | ER F   | TB SSB | ER F    |

## Albacore tuna North Atlantic [ALBANATL]

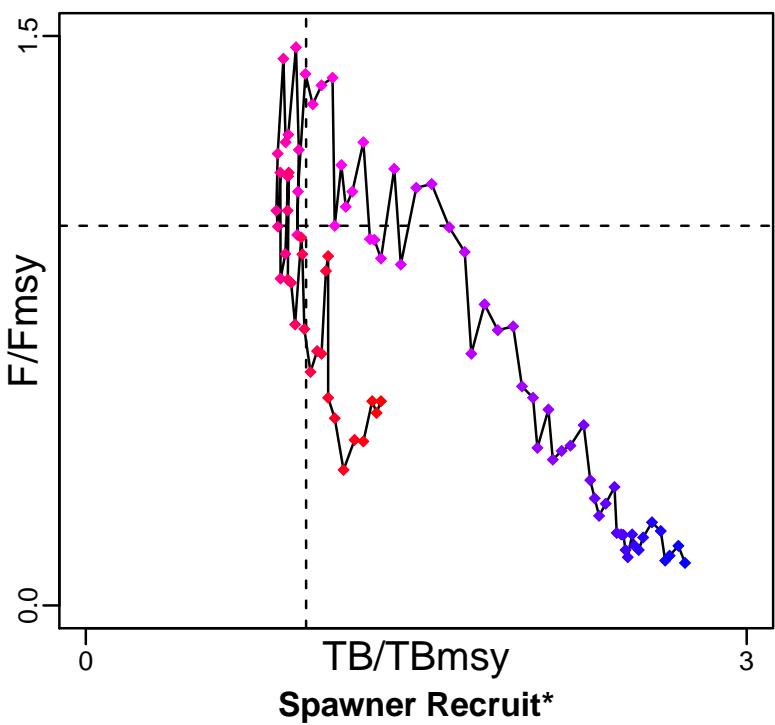
| <b>Metadata</b>             |   |
|-----------------------------|---|
| <b>Scientific Name</b>      | Thunnus alalunga  |
| <b>Current Assess ID</b>    | ICCAT-ALBANATL-1930-2016-PONS                                   |
| <b>Area</b>                 | Northern Atlantic   |
| <b>Management Authority</b> | International Commission for the Conservation of Atlantic Tunas |
| <b>Assessor</b>             | International Commission for the Conservation of Atlantic Tunas |
| <b>Asmts in RAM</b>         | 2011, 2015, 2016  |

| <b>Reference Points</b> |                  |           |         |
|-------------------------|------------------|-----------|---------|
| Type                    | ID               | Asmt Year | Value   |
| <b>TBmsy</b>            | TBmsy-extr-MT    | 2016      | 416,327 |
| <b>SSBmsy</b>           | -                | -         | -       |
| <b>Fmsy</b>             | Fmsy-extr-1/yr   | 2016      | 0.087   |
| <b>ERmsy</b>            | ERmsy-calc-ratio | 2015      | 0.084   |
| <b>TBmgt</b>            | TBmgt-MT         | 2015      | 435,300 |
| <b>SSBmgt</b>           | -                | -         | -       |
| <b>Fmgt</b>             | Fmgt-1/yr        | 2015      | 0.084   |
| <b>ERmgt</b>            | -                | -         | -       |
| <b>TB0</b>              | -                | -         | -       |
| <b>SSB0</b>             | -                | -         | -       |
| <b>MSY</b>              | MSY-MT           | 2015      | 36,650  |
| <b>M</b>                | M-1/yr           | 2015      | 0.3     |
| <b>TBlim</b>            | -                | -         | -       |
| <b>SSBlim</b>           | -                | -         | -       |
| <b>Flim</b>             | -                | -         | -       |
| <b>ERlim</b>            | -                | -         | -       |

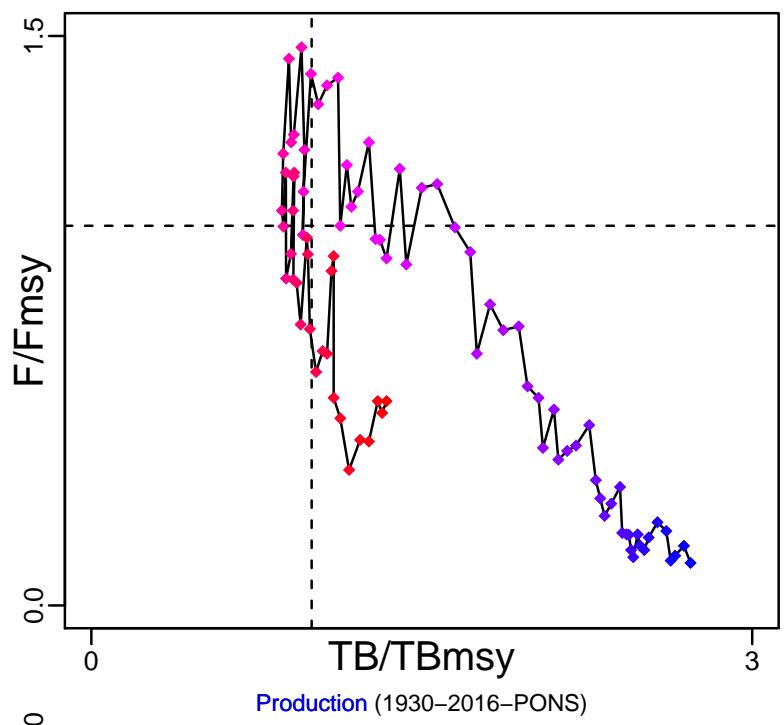
| <b>Time Series</b> |                                |           |            |     |     |  |
|--------------------|--------------------------------|-----------|------------|-----|-----|--|
| Type               | ID                             | Asmt Year | Curr Value | Sex | Age |  |
| <b>TB</b>          | TB-MT                          | 2016      | 569,000    | -   | -   |  |
| <b>SSB</b>         | -                              | -         | -          | -   | -   |  |
| <b>TN</b>          | -                              | -         | -          | -   | -   |  |
| <b>R</b>           | -                              | -         | -          | -   | -   |  |
| <b>F</b>           | F-1/yr                         | 2016      | 0.045      | -   | -   |  |
| <b>ER</b>          | ER-calc-ratio                  | 2016      | 0.045      | -   | -   |  |
| <b>TC</b>          | TC-MT                          | 2015      | 24,700     |     |     |  |
| <b>TL</b>          | TL-MT                          | 2016      | 30,100     |     |     |  |
| <b>TB/TBmsy</b>    | TBdivTBmsy-dimensionless       | 2016      | 1.34       |     |     |  |
| <b>SSB/SSBmsy</b>  | SSBdivSSBmsy-dimensionless     | 2015      | 0.763      |     |     |  |
| <b>F/Fmsy</b>      | FdivFmsy-dimensionless         | 2016      | 0.538      |     |     |  |
| <b>ER/ERmsy</b>    | ER-calc-ratio/ERmsy-calc-ratio | 2015      | 0.731      |     |     |  |
| <b>TB/TBmgt</b>    | TB-MT/TBmgt-MT                 | 2015      | 0.747      |     |     |  |
| <b>SSB/SSBmgt</b>  | -                              | -         | -          |     |     |  |
| <b>F/Fmgt</b>      | F-1/yr/Fmgt-1/yr               | 2015      | 0.75       |     |     |  |
| <b>ER/ERmgt</b>    | -                              | -         | -          |     |     |  |

Albacore tuna North Atlantic [ALBANATL]

Kobe MSYpref (1930–2016–PONS)

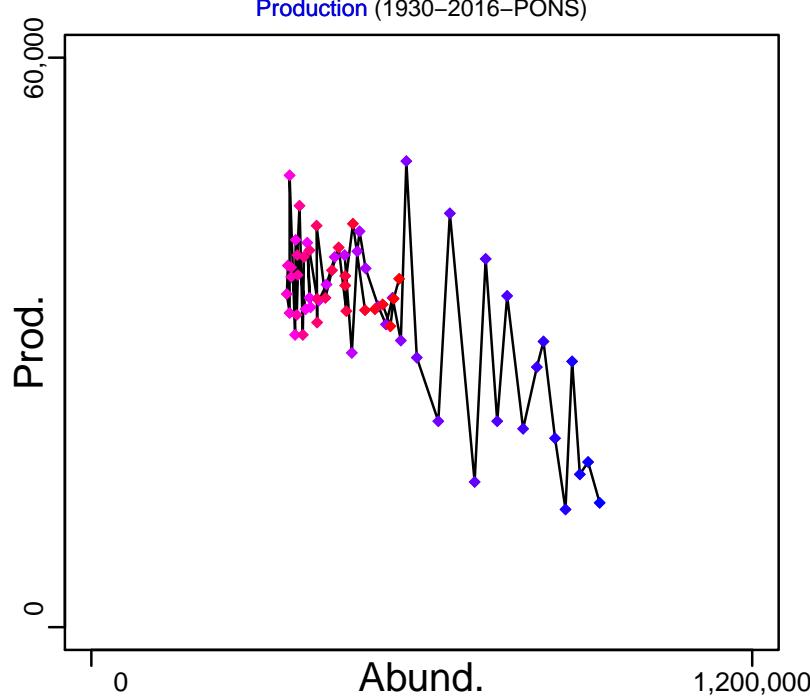
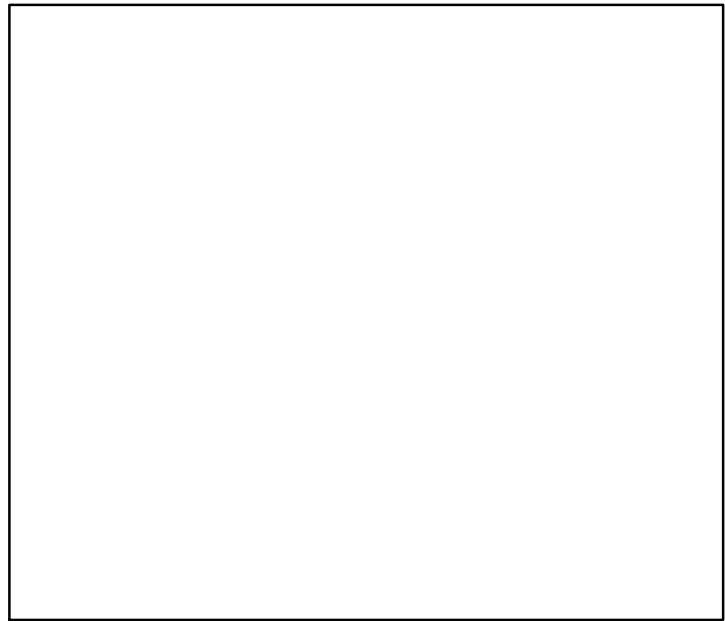


Kobe MGTPref (1930–2016–PONS)



**Spawner Recruit\***

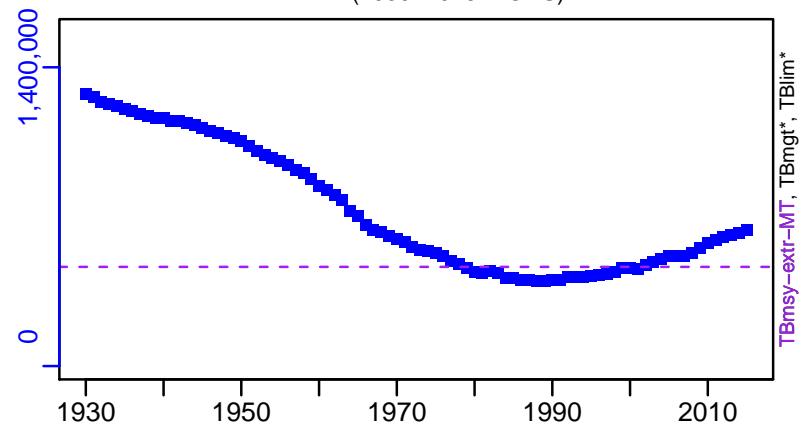
**Production (1930–2016–PONS)**



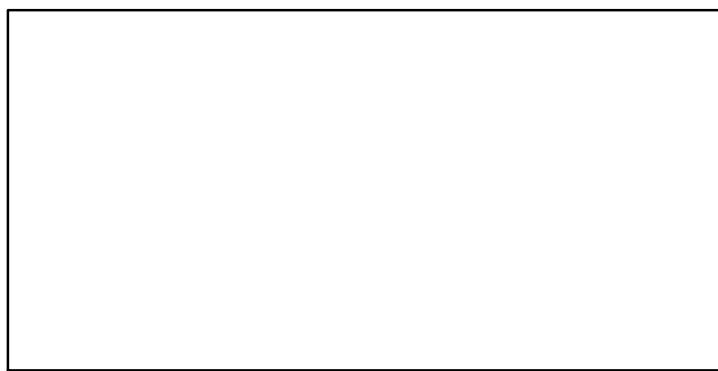
◆ Start Year   ◆ End Year   \* No Data

Albacore tuna North Atlantic [ALBANATL]

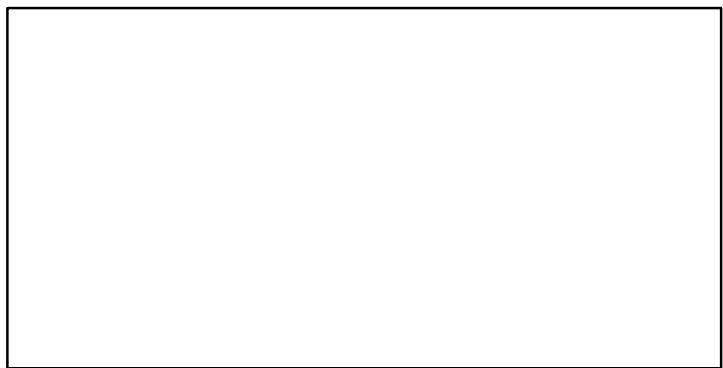
TB-MT (1930–2016-PONS)



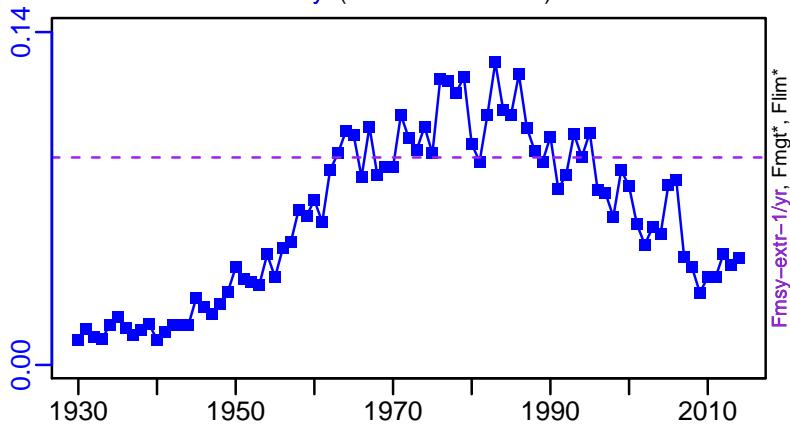
SSB\*



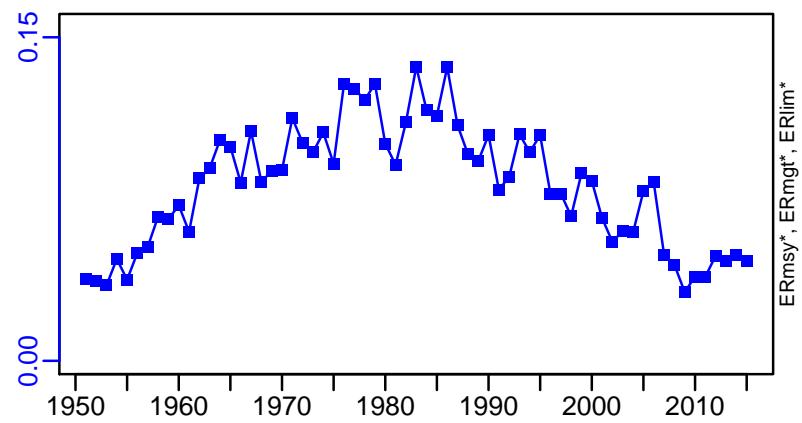
**TN \***



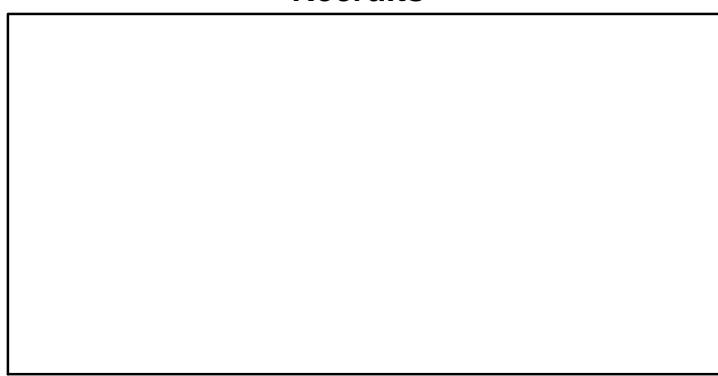
F-1/yr (1930–2016-PONS)



ER-calc-ratio (1930–2016-PONS)



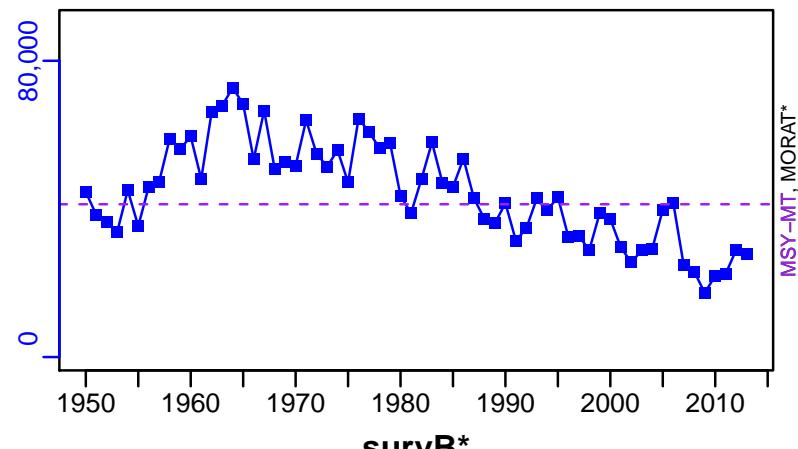
Recruits\*



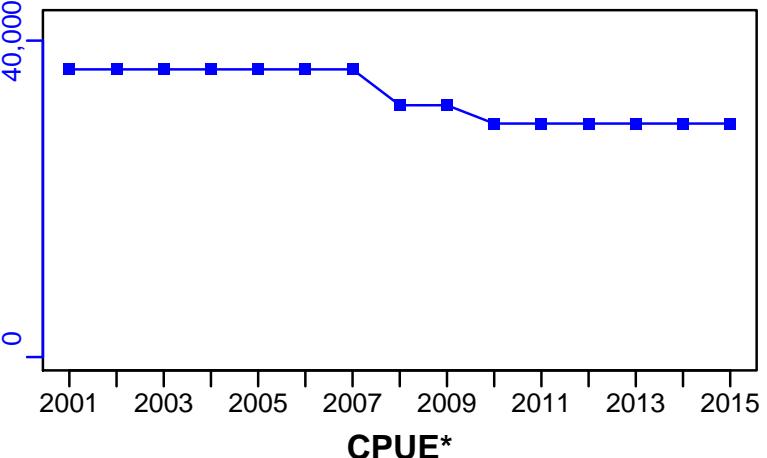
- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| - - MSY-based BRP    | --- Lim BRP  | ■ No Data |

**Albacore tuna North Atlantic [ALBANATL]**

TC-MT, TL\*, RecC\* (1930–2015–PONS)



TAC-MT, Cpair\*, Cadv\* (1930–2015–PONS)



**EFFORT\***

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

## Albacore tuna South Atlantic [ALBASATL]

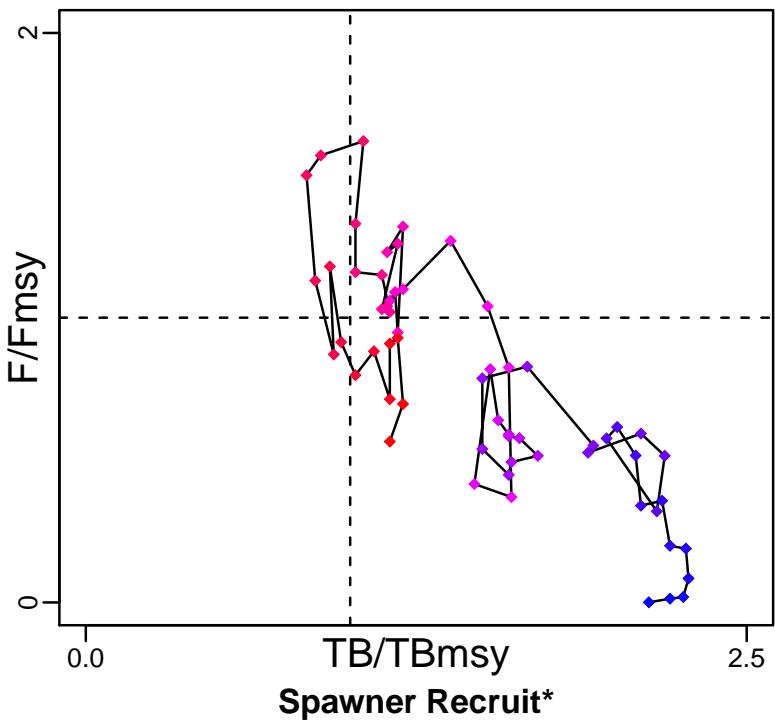
| <b>Metadata</b>             |   |
|-----------------------------|---|
| <b>Scientific Name</b>      | Thunnus alalunga  |
| <b>Current Assess ID</b>    | ICCAT-ALBASATL-1951-2016-PONS                                   |
| <b>Area</b>                 | South Atlantic  |
| <b>Management Authority</b> | International Commission for the Conservation of Atlantic Tunas |
| <b>Assessor</b>             | International Commission for the Conservation of Atlantic Tunas |
| <b>Asmts in RAM</b>         | 2015, 2016  |

| <b>Reference Points</b> |                  |           |         |
|-------------------------|------------------|-----------|---------|
| Type                    | ID               | Asmt Year | Value   |
| <b>TBmsy</b>            | TBmsy-MT         | 2015      | 184,108 |
| <b>SSBmsy</b>           | -                | -         | -       |
| <b>Fmsy</b>             | Fmsy-1/yr        | 2015      | 0.17    |
| <b>ERmsy</b>            | ERmsy-calc-ratio | 2015      | 0.137   |
| <b>TBmgt</b>            | TBmgt-MT         | 2015      | 184,108 |
| <b>SSBmgt</b>           | -                | -         | -       |
| <b>Fmgt</b>             | Fmgt-1/yr        | 2015      | 0.17    |
| <b>ERmgt</b>            | -                | -         | -       |
| <b>TB0</b>              | -                | -         | -       |
| <b>SSB0</b>             | -                | -         | -       |
| <b>MSY</b>              | MSY-MT           | 2015      | 25,148  |
| <b>M</b>                | -                | -         | -       |
| <b>TBlim</b>            | -                | -         | -       |
| <b>SSBlim</b>           | -                | -         | -       |
| <b>Flim</b>             | -                | -         | -       |
| <b>ERlim</b>            | -                | -         | -       |

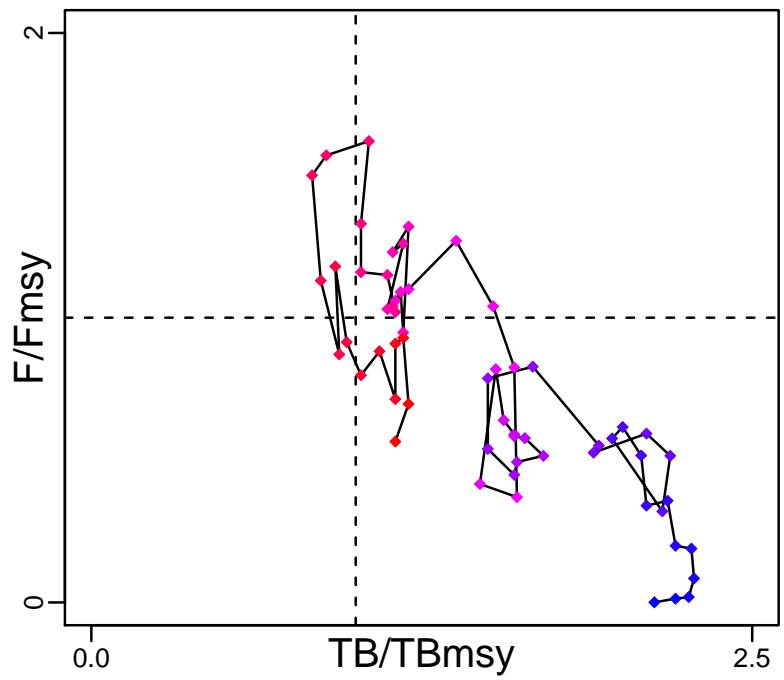
| <b>Time Series</b> |                                |           |            |     |     |  |
|--------------------|--------------------------------|-----------|------------|-----|-----|--|
| Type               | ID                             | Asmt Year | Curr Value | Sex | Age |  |
| <b>TB</b>          | TB-MT                          | 2015      | 149,000    | -   | -   |  |
| <b>SSB</b>         | -                              | -         | -          | -   | -   |  |
| <b>TN</b>          | -                              | -         | -          | -   | -   |  |
| <b>R</b>           | -                              | -         | -          | -   | -   |  |
| <b>F</b>           | F-1/yr                         | 2015      | 0.192      | -   | -   |  |
| <b>ER</b>          | ER-calc-ratio                  | 2015      | 0.168      | -   | -   |  |
| <b>TC</b>          | TC-MT                          | 2015      | 19,200     |     |     |  |
| <b>TL</b>          | TL-MT                          | 2016      | 13,700     |     |     |  |
| <b>TB/TBmsy</b>    | TBdivTBmsy-dimensionless       | 2016      | 1.15       |     |     |  |
| <b>SSB/SSBmsy</b>  | -                              | -         | -          |     |     |  |
| <b>F/Fmsy</b>      | FdivFmsy-dimensionless         | 2016      | 0.565      |     |     |  |
| <b>ER/ERmsy</b>    | ER-calc-ratio/ERmsy-calc-ratio | 2015      | 1.233      |     |     |  |
| <b>TB/TBmgt</b>    | TB-MT/TBmgt-MT                 | 2015      | 0.809      |     |     |  |
| <b>SSB/SSBmgt</b>  | -                              | -         | -          |     |     |  |
| <b>F/Fmgt</b>      | F-1/yr/Fmgt-1/yr               | 2015      | 1.129      |     |     |  |
| <b>ER/ERmgt</b>    | -                              | -         | -          |     |     |  |

Albacore tuna South Atlantic [ALBASATL]

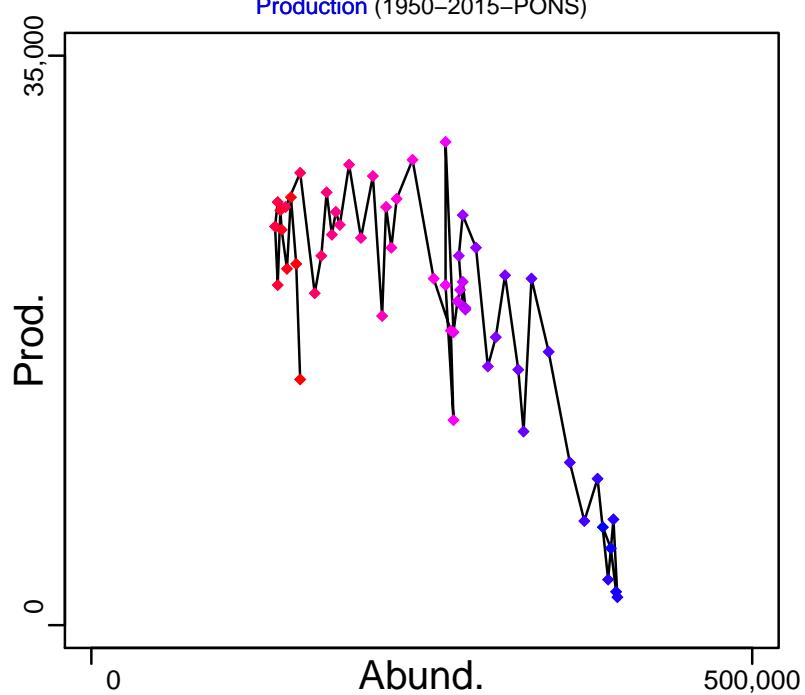
Kobe MSYpref (1951–2016–PONS)



Kobe MGTPref (1951–2016–PONS)



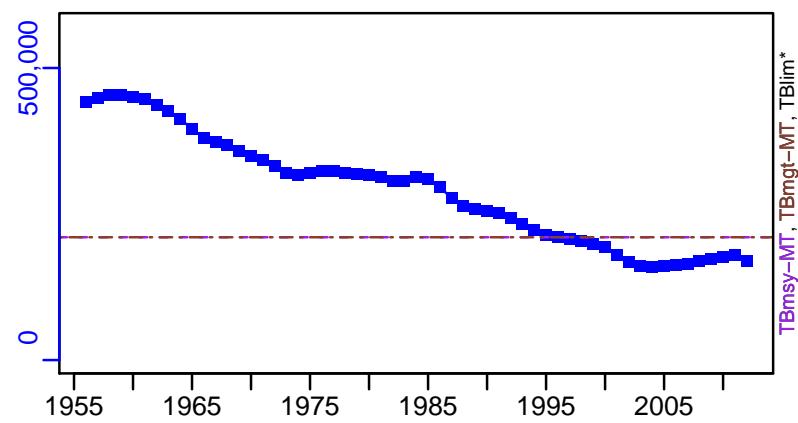
Production (1950–2015–PONS)



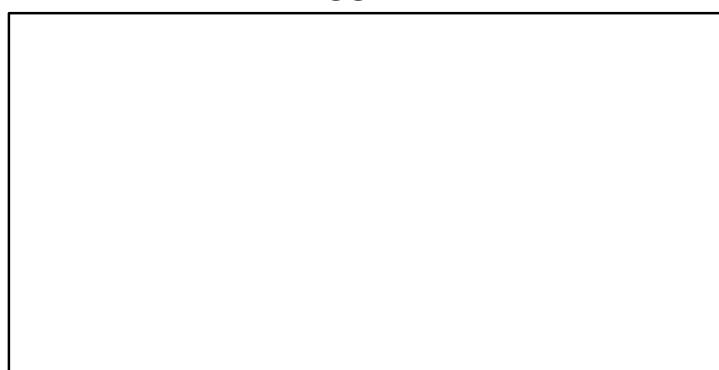
- ◆ Start Year
- ◆ End Year
- \* No Data

Albacore tuna South Atlantic [ALBASATL]

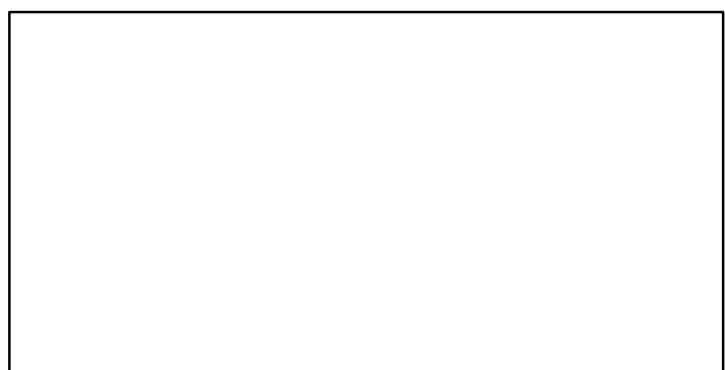
TB-MT (1950–2015–PONS)



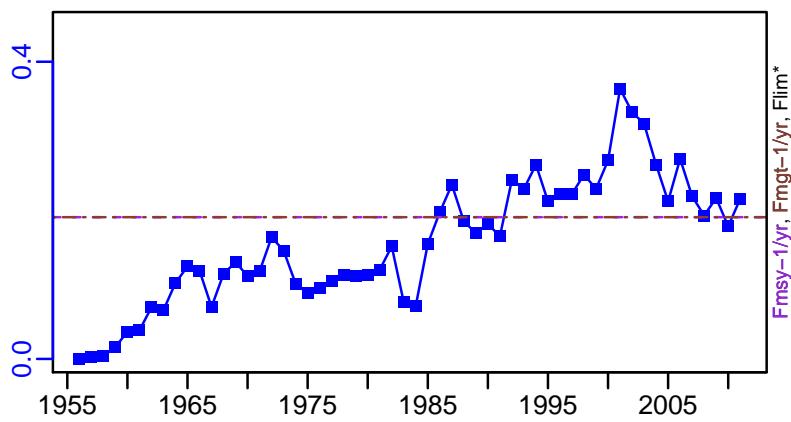
SSB\*



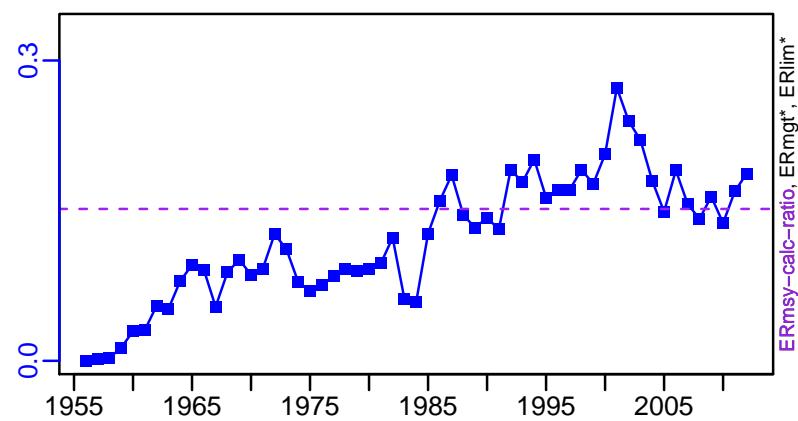
TN \*



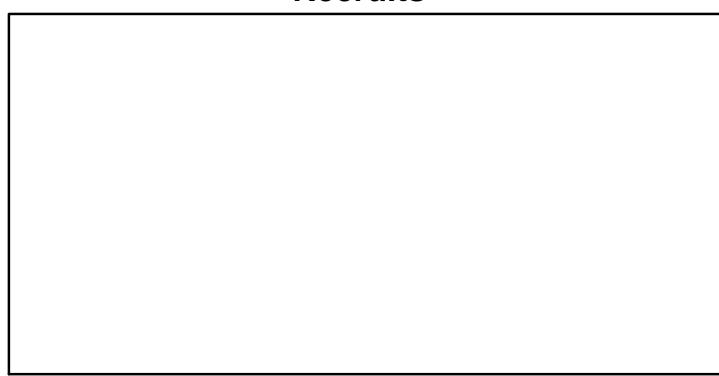
F-1/yr (1950–2015–PONS)



ER-calc-ratio (1950–2015–PONS)



Recruits\*

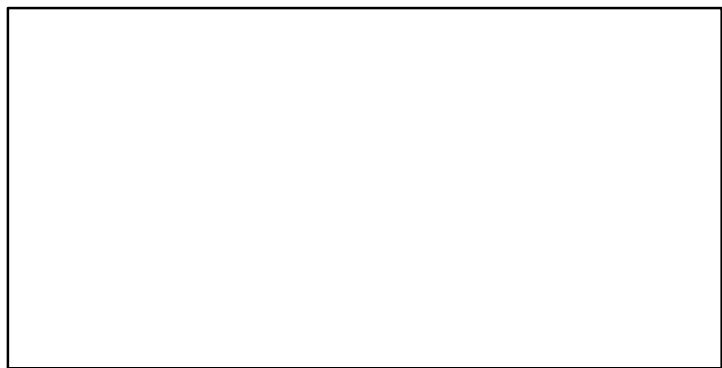
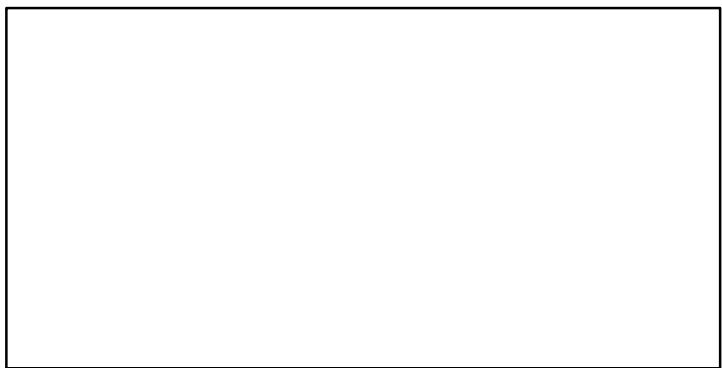
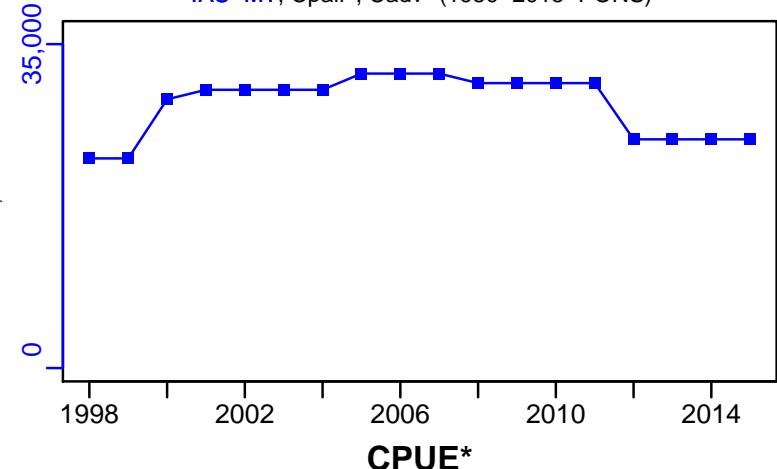
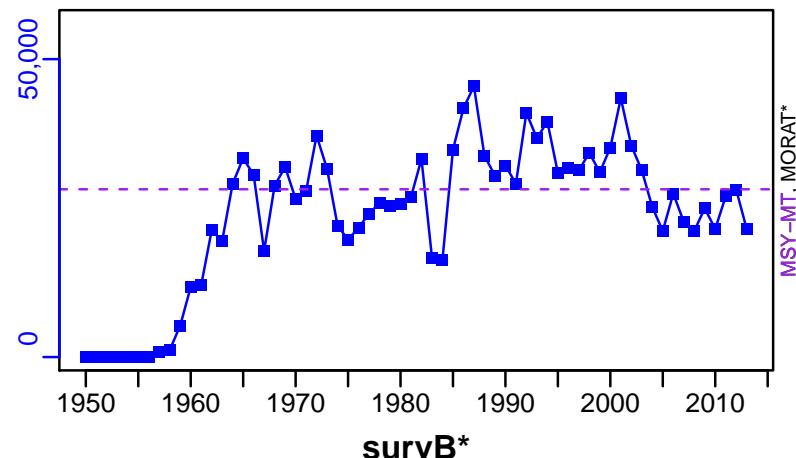


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| - - MSY-based BRP    | --- Lim BRP  | ■ No Data |

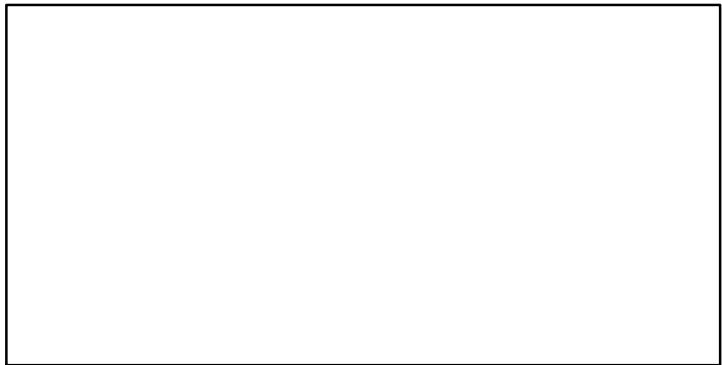
### Albacore tuna South Atlantic [ALBASATL]

TC-MT, TL\*, RecC\* (1950–2015–PONS)

TAC-MT, Cpair\*, Cadv\* (1950–2015–PONS)



EFFORT\*



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

## Bluefin tuna Eastern Atlantic [ATBTUNAEATL]

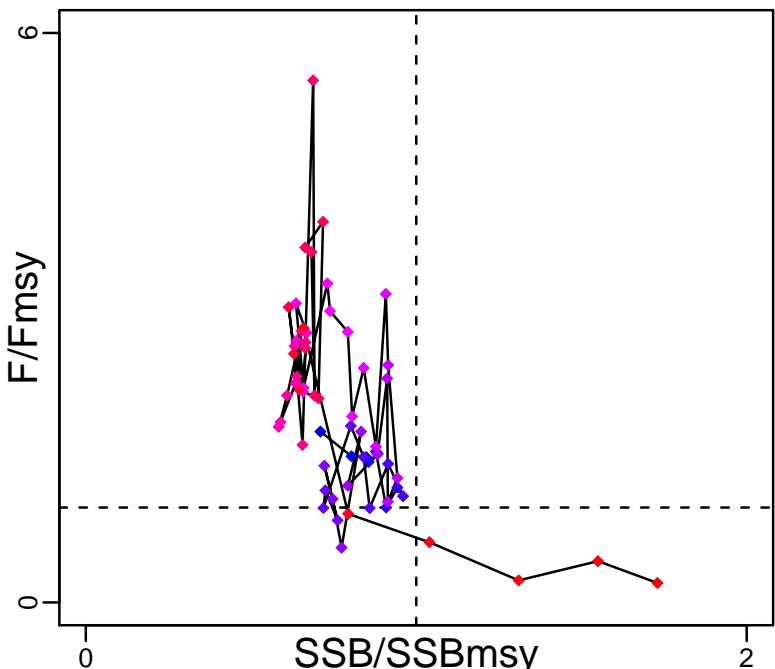
| <b>Metadata</b>             |   |
|-----------------------------|---|
| <b>Scientific Name</b>      | Thunnus thynnus   |
| <b>Current Assess ID</b>    | ICCAT-ATBTUNAEATL-1951-2016-PONS                                |
| <b>Area</b>                 | Eastern Atlantic  |
| <b>Management Authority</b> | International Commission for the Conservation of Atlantic Tunas |
| <b>Assessor</b>             | International Commission for the Conservation of Atlantic Tunas |
| <b>Asmts in RAM</b>         | 2015, 2016  |

| <b>Reference Points</b> |                |                  |              |
|-------------------------|----------------|------------------|--------------|
| <b>Type</b>             | <b>ID</b>      | <b>Asmt Year</b> | <b>Value</b> |
| <b>TBmsy</b>            | -              | -                | -            |
| <b>SSBmsy</b>           | SSBmsy-MT      | 2015             | 325,322      |
| <b>Fmsy</b>             | Fmsy-extr-1/yr | 2016             | 0.111        |
| <b>ERmsy</b>            | -              | -                | -            |
| <b>TBmgt</b>            | -              | -                | -            |
| <b>SSBmgt</b>           | SSBmgt-MT      | 2015             | 325,322      |
| <b>Fmgt</b>             | Fmgt-1/yr      | 2015             | 0.14         |
| <b>ERmgt</b>            | -              | -                | -            |
| <b>TB0</b>              | -              | -                | -            |
| <b>SSB0</b>             | -              | -                | -            |
| <b>MSY</b>              | MSY-MT         | 2015             | 40,252       |
| <b>M</b>                | -              | -                | -            |
| <b>TBlim</b>            | -              | -                | -            |
| <b>SSBlim</b>           | -              | -                | -            |
| <b>Flim</b>             | -              | -                | -            |
| <b>ERlim</b>            | -              | -                | -            |

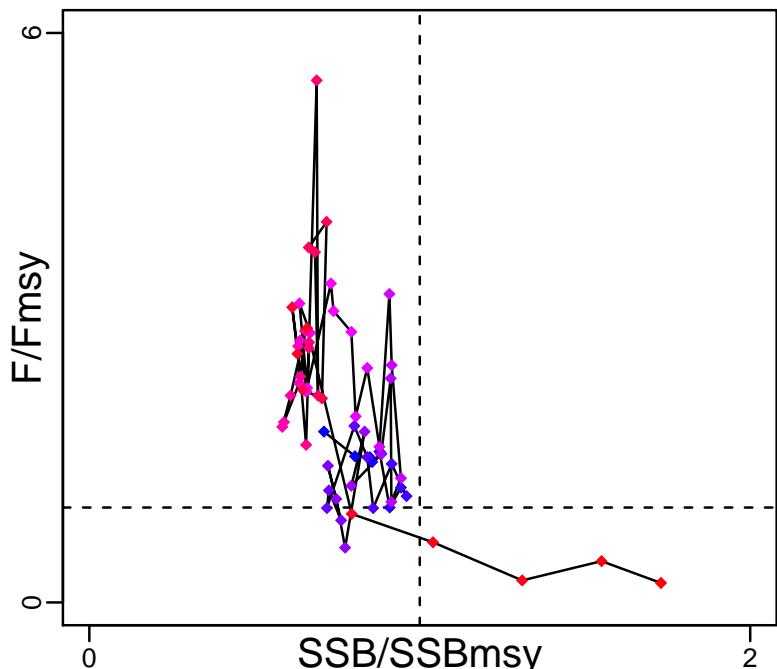
| <b>Time Series</b> |                            |                  |                   |            |            |  |
|--------------------|----------------------------|------------------|-------------------|------------|------------|--|
| <b>Type</b>        | <b>ID</b>                  | <b>Asmt Year</b> | <b>Curr Value</b> | <b>Sex</b> | <b>Age</b> |  |
| <b>TB</b>          | -                          | -                | -                 | -          | -          |  |
| <b>SSB</b>         | SSB-MT                     | 2016             | 605,000           | -          | -          |  |
| <b>TN</b>          | -                          | -                | -                 | -          | -          |  |
| <b>R</b>           | R-E00                      | 2016             | 4,330,000         | -          | -          |  |
| <b>F</b>           | F-1/yr                     | 2016             | 0.038             | -          | 10+        |  |
| <b>ER</b>          | -                          | -                | -                 | -          | -          |  |
| <b>TC</b>          | TC-MT                      | 2015             | 13,200            |            |            |  |
| <b>TL</b>          | TL-MT                      | 2016             | 6940              |            |            |  |
| <b>TB/TBmsy</b>    | -                          | -                | -                 |            |            |  |
| <b>SSB/SSBmsy</b>  | SSBdivSSBmsy-dimensionless | 2015             | 1.73              |            |            |  |
| <b>F/Fmsy</b>      | FdivFmsy-dimensionless     | 2016             | 0.34              |            |            |  |
| <b>ER/ERmsy</b>    | -                          | -                | -                 |            |            |  |
| <b>TB/TBmgt</b>    | -                          | -                | -                 |            |            |  |
| <b>SSB/SSBmgt</b>  | SSB-MT/SSBmgt-MT           | 2015             | 1.734             |            |            |  |
| <b>F/Fmgt</b>      | F-1/yr/Fmgt-1/yr           | 2015             | 0.209             |            |            |  |
| <b>ER/ERmgt</b>    | -                          | -                | -                 |            |            |  |

Bluefin tuna Eastern Atlantic [ATBTUNAEATL]

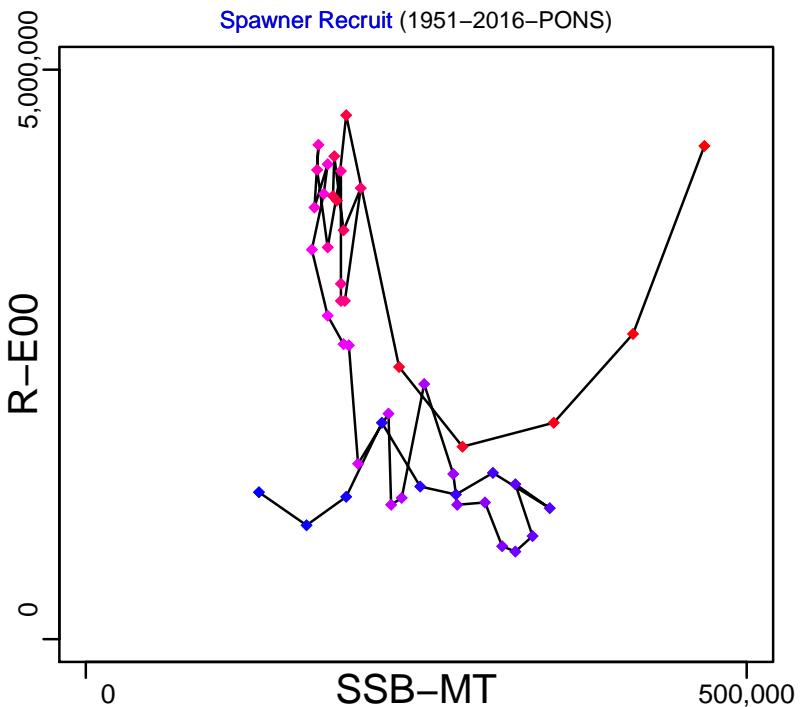
Kobe MSYpref (1950–2015–PONS)



Kobe MGTPref (1950–2015–PONS)



Spawner Recruit (1951–2016–PONS)



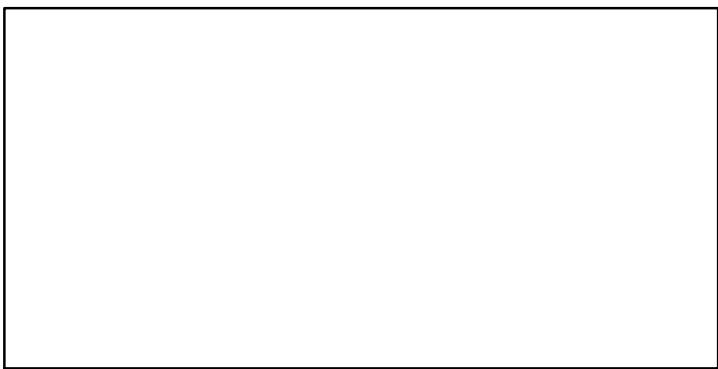
**Production\***



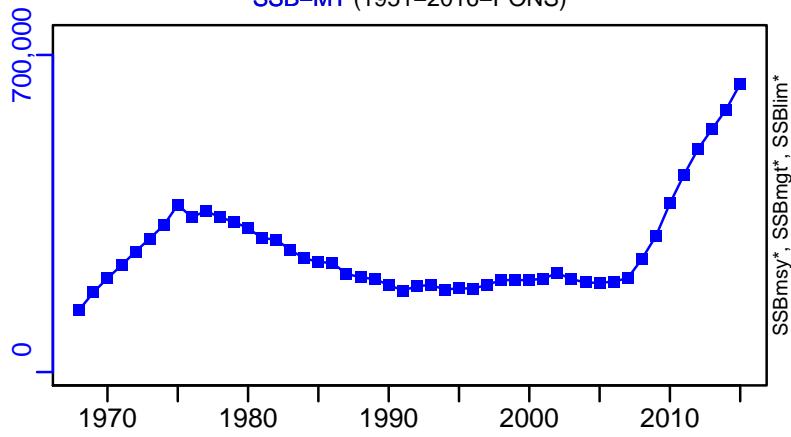
|              |            |   |         |
|--------------|------------|---|---------|
| ◆ Start Year | ◆ End Year | * | No Data |
|--------------|------------|---|---------|

Bluefin tuna Eastern Atlantic [ATBTUNAEATL]

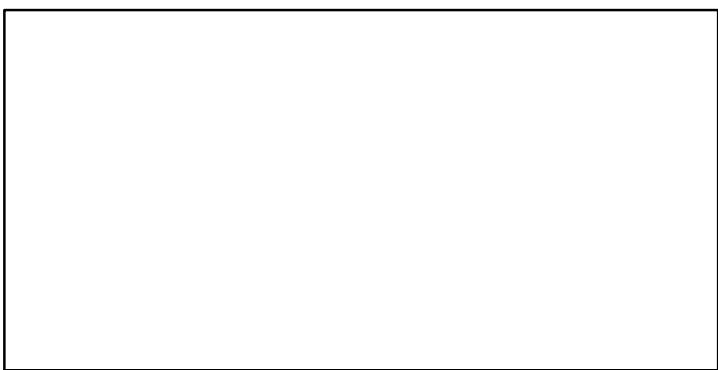
**TB\***



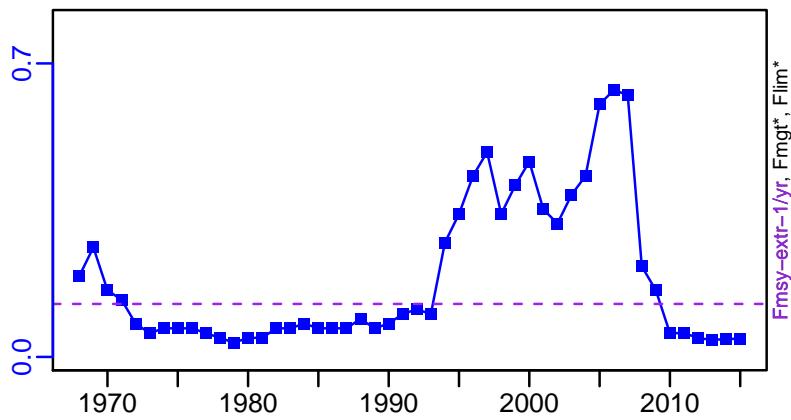
**SSB-MT (1951–2016–PONS)**



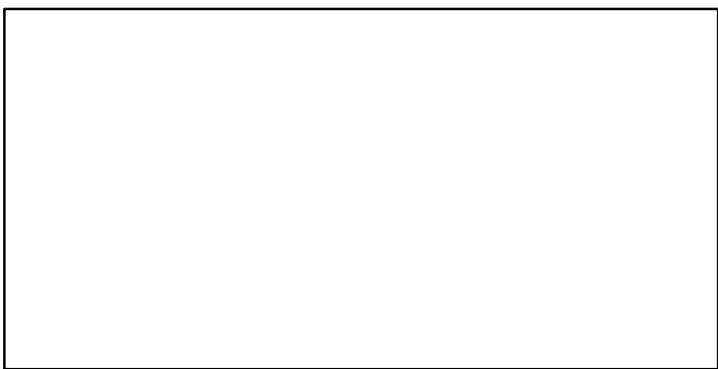
**TN \***



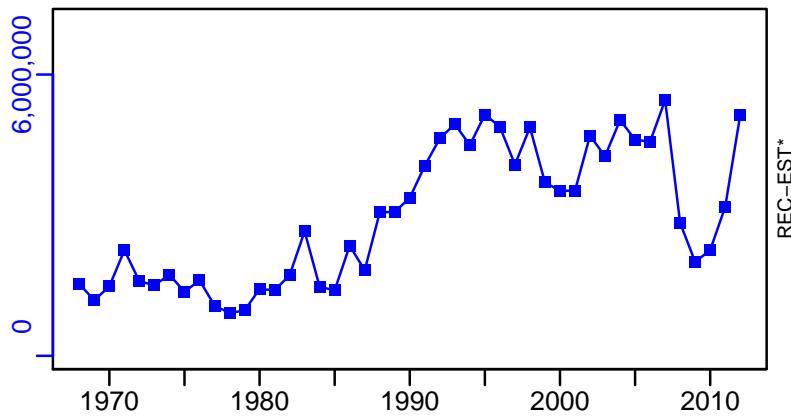
**F-1/yr (1951–2016–PONS)**



**ER\***



**R-E00 (1951–2016–PONS)**

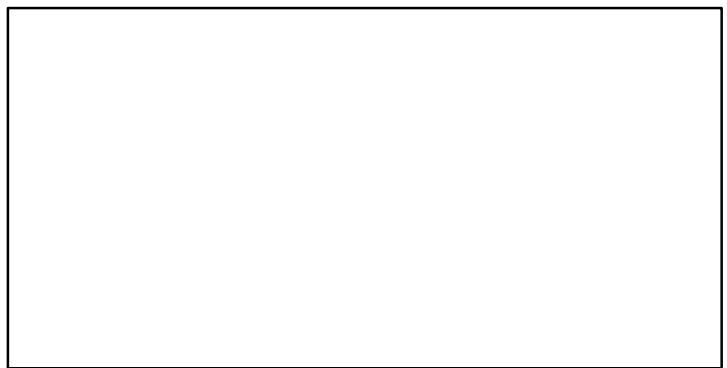
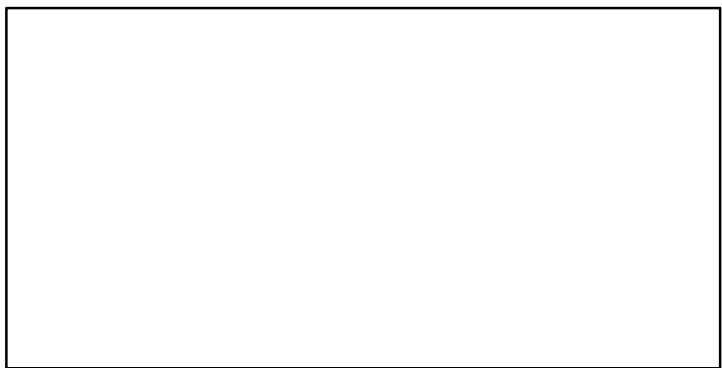
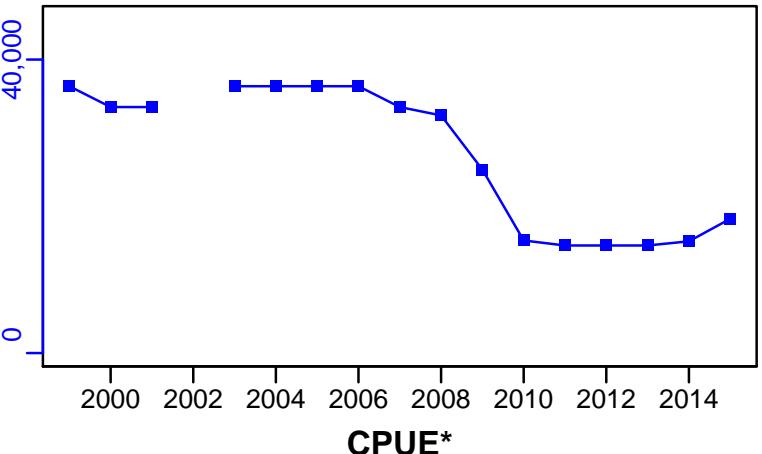
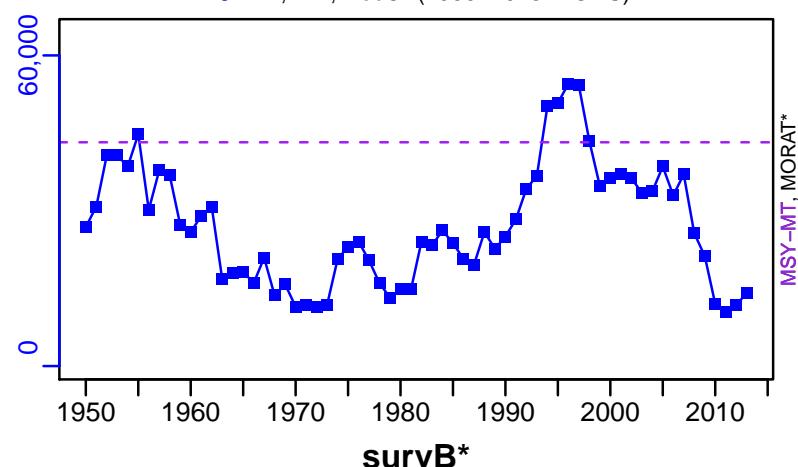


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| — MSY-based BRP      | ··· Lim BRP  | ■ No Data |

### Bluefin tuna Eastern Atlantic [ATBTUNAEATL]

TC-MT, TL\*, RecC\* (1950–2015–PONS)

TAC-MT, Cpair\*, Cadv\* (1950–2015–PONS)



**EFFORT\***

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

## Bluefin tuna Western Atlantic [ATBTUNAWATL]

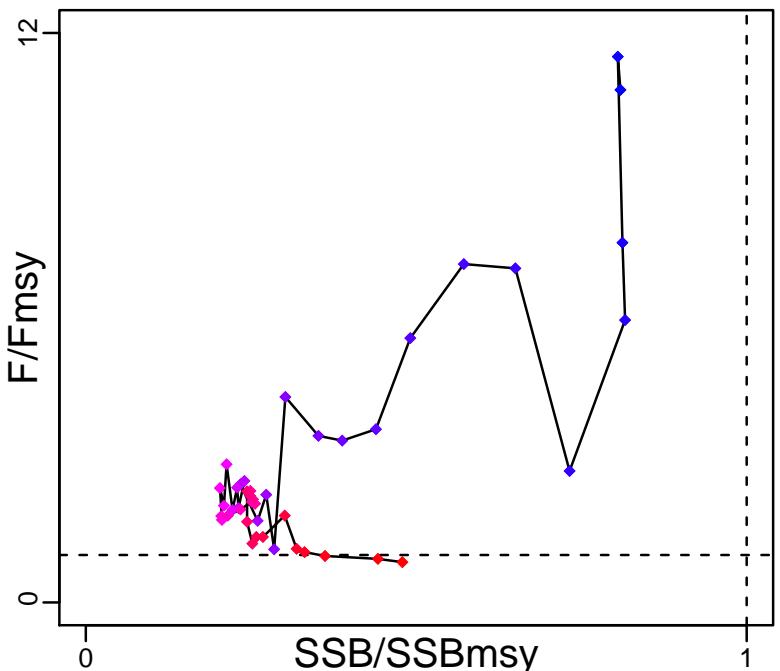
| <b>Metadata</b>             |   |
|-----------------------------|---|
| <b>Scientific Name</b>      | Thunnus thynnus   |
| <b>Current Assess ID</b>    | ICCAT-ATBTUNAWATL-1951-2016-PONS                                |
| <b>Area</b>                 | Western Atlantic  |
| <b>Management Authority</b> | International Commission for the Conservation of Atlantic Tunas |
| <b>Assessor</b>             | International Commission for the Conservation of Atlantic Tunas |
| <b>Asmts in RAM</b>         | 2015, 2016, 2013  |

| <b>Reference Points</b> |                |           |        |
|-------------------------|----------------|-----------|--------|
| Type                    | ID             | Asmt Year | Value  |
| <b>TBmsy</b>            | -              | -         | -      |
| <b>SSBmsy</b>           | SSBmsy-MT      | 2015      | 62,443 |
| <b>Fmsy</b>             | Fmsy-extr-1/yr | 2016      | 0.104  |
| <b>ERmsy</b>            | -              | -         | -      |
| <b>TBmgt</b>            | -              | -         | -      |
| <b>SSBmgt</b>           | SSBmgt-MT      | 2015      | 62,443 |
| <b>Fmgt</b>             | Fmgt-1/yr      | 2015      | 0.08   |
| <b>ERmgt</b>            | -              | -         | -      |
| <b>TB0</b>              | -              | -         | -      |
| <b>SSB0</b>             | -              | -         | -      |
| <b>MSY</b>              | MSY-MT         | 2015      | 5233   |
| <b>M</b>                | -              | -         | -      |
| <b>TBlim</b>            | -              | -         | -      |
| <b>SSBlim</b>           | -              | -         | -      |
| <b>Flim</b>             | -              | -         | -      |
| <b>ERlim</b>            | -              | -         | -      |

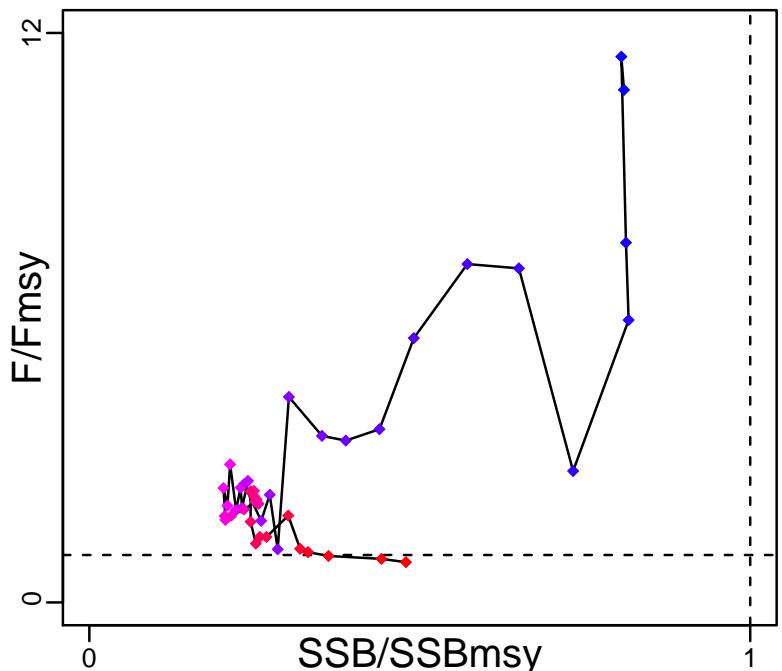
| <b>Time Series</b> |                            |           |            |     |     |  |
|--------------------|----------------------------|-----------|------------|-----|-----|--|
| Type               | ID                         | Asmt Year | Curr Value | Sex | Age |  |
| <b>TB</b>          | -                          | -         | -          | -   | -   |  |
| <b>SSB</b>         | SSB-MT                     | 2016      | 18,400     | -   | -   |  |
| <b>TN</b>          | -                          | -         | -          | -   | -   |  |
| <b>R</b>           | R-E00                      | 2013      | 80,300     | -   | 1   |  |
| <b>F</b>           | F-1/yr                     | 2016      | 0.094      | -   | -   |  |
| <b>ER</b>          | -                          | -         | -          | -   | -   |  |
| <b>TC</b>          | TC-MT                      | 2015      | 1480       |     |     |  |
| <b>TL</b>          | TL-MT                      | 2016      | 1910       |     |     |  |
| <b>TB/TBmsy</b>    | -                          | -         | -          |     |     |  |
| <b>SSB/SSBmsy</b>  | SSBdivSSBmsy-dimensionless | 2015      | 0.479      |     |     |  |
| <b>F/Fmsy</b>      | FdivFmsy-dimensionless     | 2016      | 0.9        |     |     |  |
| <b>ER/ERmsy</b>    | -                          | -         | -          |     |     |  |
| <b>TB/TBmgt</b>    | -                          | -         | -          |     |     |  |
| <b>SSB/SSBmgt</b>  | SSB-MT/SSBmgt-MT           | 2015      | 0.479      |     |     |  |
| <b>F/Fmgt</b>      | F-1/yr/Fmgt-1/yr           | 2015      | 0.888      |     |     |  |
| <b>ER/ERmgt</b>    | -                          | -         | -          |     |     |  |

Bluefin tuna Western Atlantic [ATBTUNAWATL]

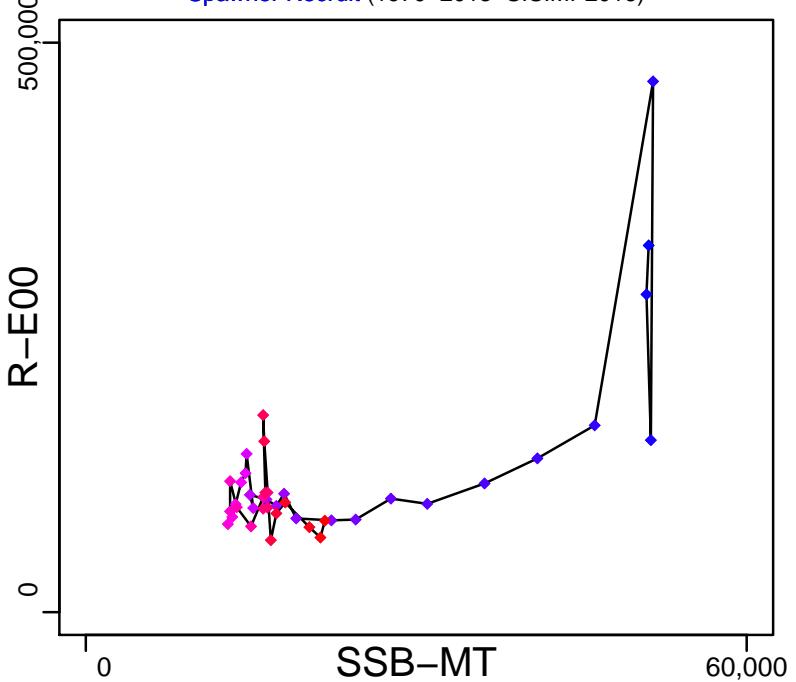
Kobe MSYpref (1950–2015–PONS)



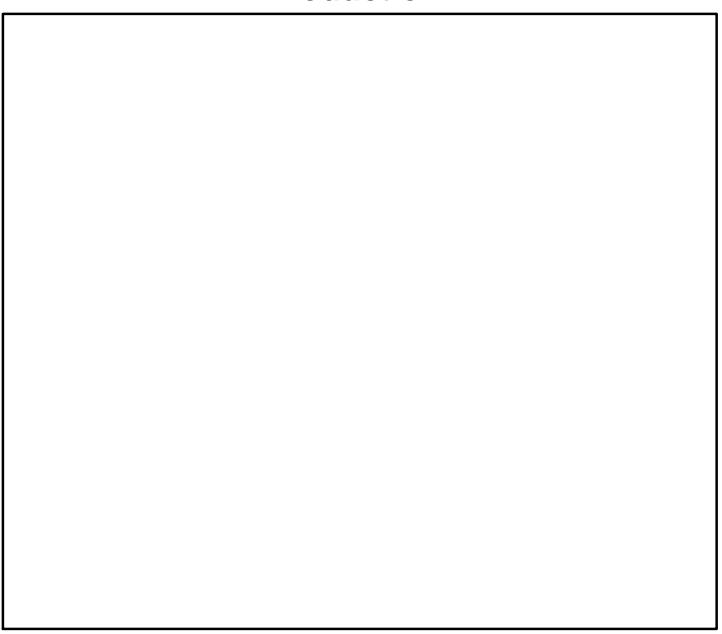
Kobe MGTPref (1950–2015–PONS)



Spawner Recruit (1970–2013–SISIMP2016)



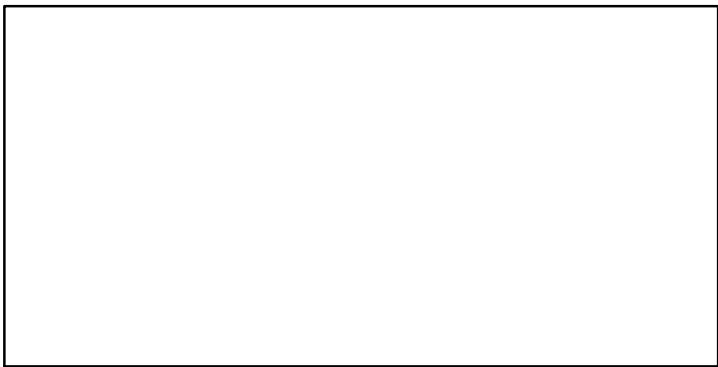
Production\*



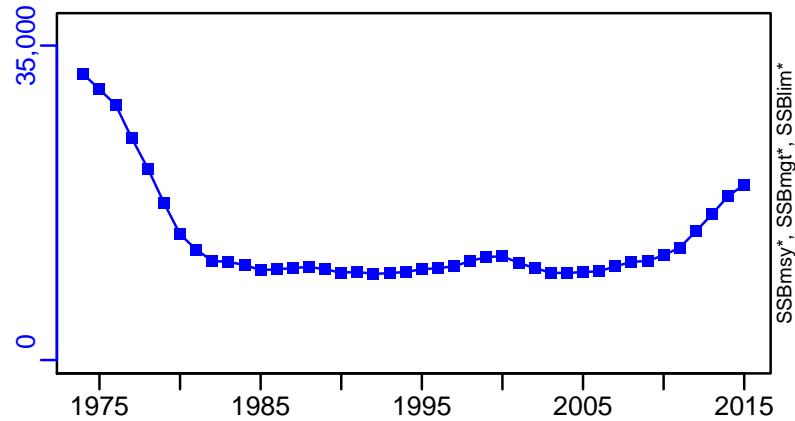
♦ Start Year   ♦ End Year   \* No Data

Bluefin tuna Western Atlantic [ATBTUNAWATL]

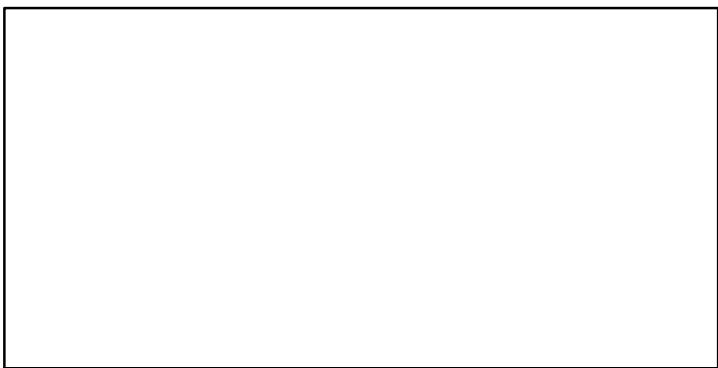
**TB\***



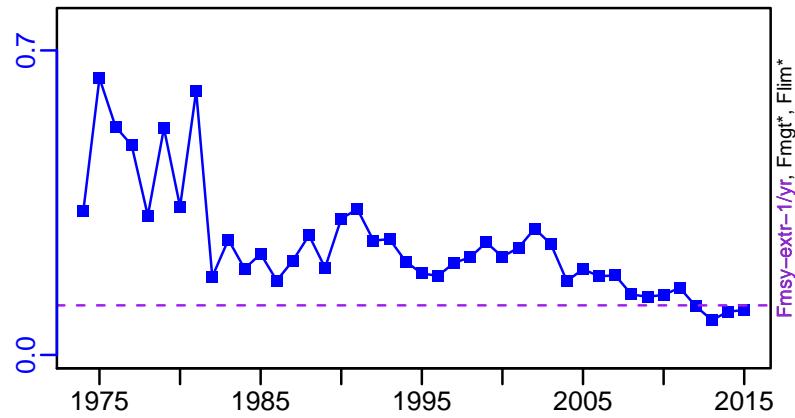
**SSB-MT** (1951–2016–PONS)



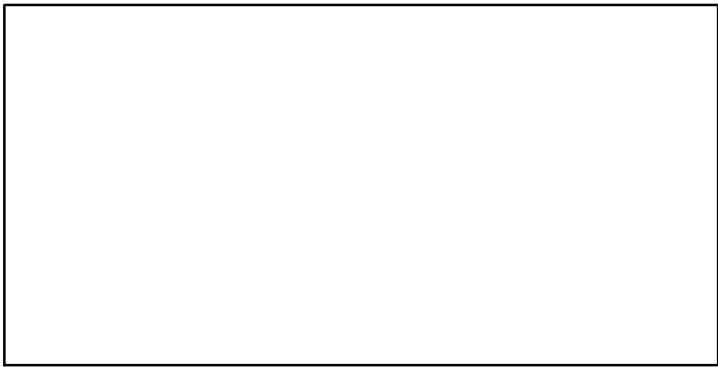
**TN \***



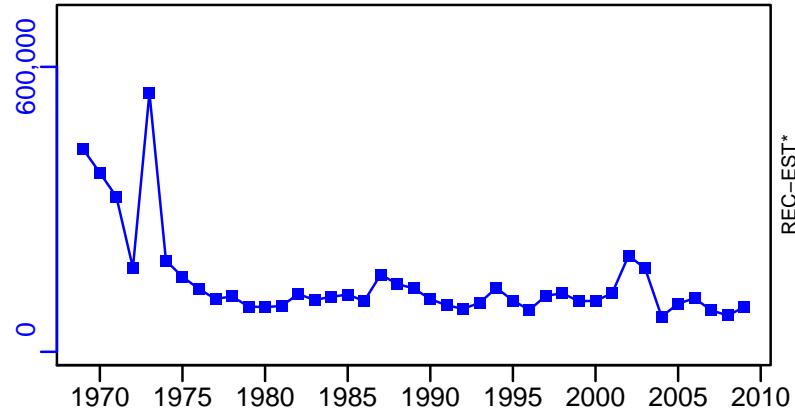
**F-1/yr** (1951–2016–PONS)



**ER\***



**R-E00** (1970–2013–SISIMP2016)

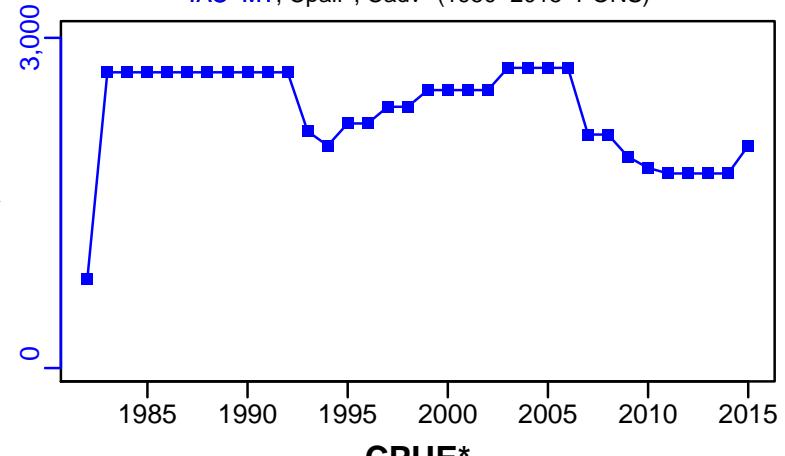
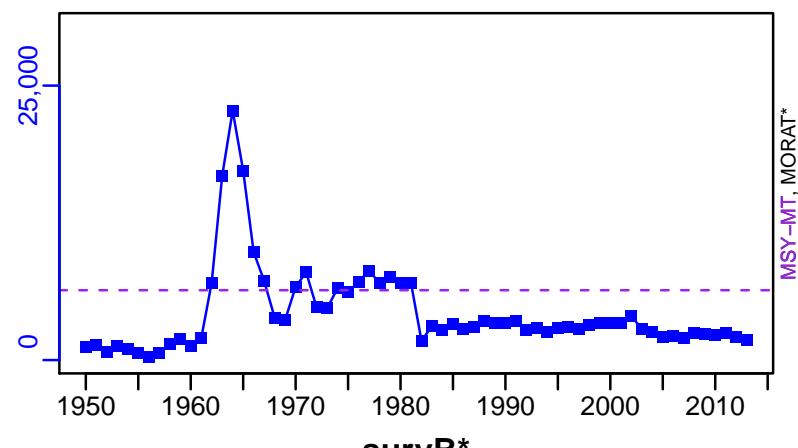


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| — MSY-based BRP      | --- Lim BRP  | ■ No Data |

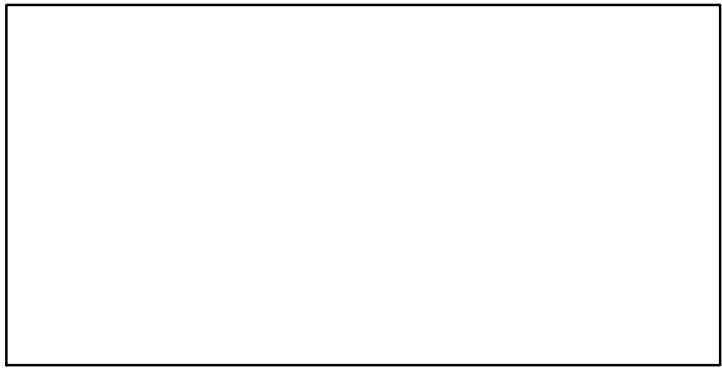
**Bluefin tuna Western Atlantic [ATBTUNAWATL]**

TC-MT, TL\*, RecC\* (1950–2015–PONS)

TAC-MT, Cpair\*, Cadv\* (1950–2015–PONS)



**EFFORT\***



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

## Bigeye tuna Atlantic [BIGEYEATL]

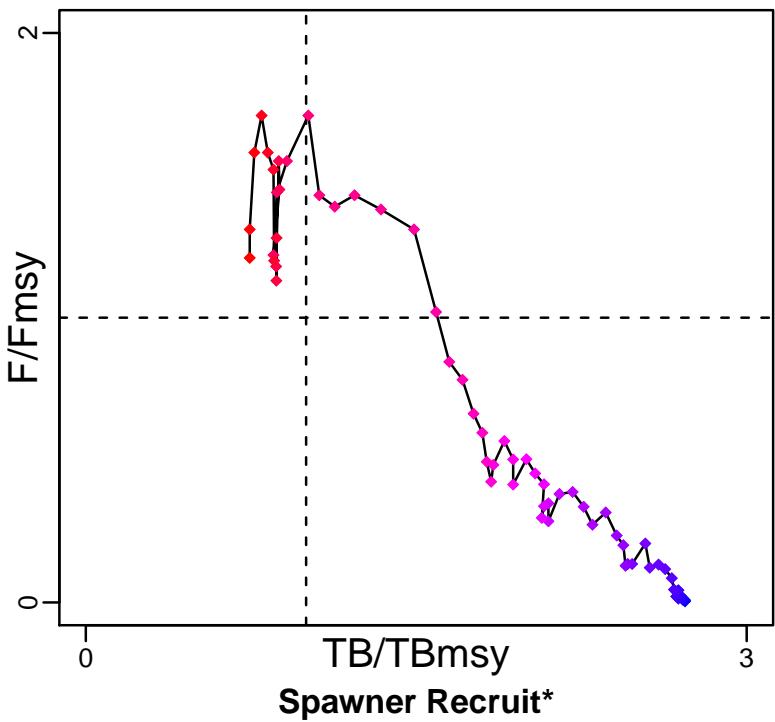
| <b>Metadata</b>             |   |
|-----------------------------|---|
| <b>Scientific Name</b>      | Thunnus obesus  |
| <b>Current Assess ID</b>    | ICCAT-BIGEYEATL-1950-2016-PONS                                  |
| <b>Area</b>                 | Atlantic Ocean  |
| <b>Management Authority</b> | International Commission for the Conservation of Atlantic Tunas |
| <b>Assessor</b>             | International Commission for the Conservation of Atlantic Tunas |
| <b>Asmts in RAM</b>         | 2010, 2016  |

| <b>Reference Points</b> |                  |           |         |
|-------------------------|------------------|-----------|---------|
| Type                    | ID               | Asmt Year | Value   |
| <b>TBmsy</b>            | TBmsy-extr-MT    | 2016      | 451,528 |
| <b>SSBmsy</b>           | -                | -         | -       |
| <b>Fmsy</b>             | Fmsy-extr-1/yr   | 2016      | 0.163   |
| <b>ERmsy</b>            | ERmsy-calc-ratio | 2010      | 0.216   |
| <b>TBmgt</b>            | -                | -         | -       |
| <b>SSBmgt</b>           | -                | -         | -       |
| <b>Fmgt</b>             | -                | -         | -       |
| <b>ERmgt</b>            | -                | -         | -       |
| <b>TB0</b>              | -                | -         | -       |
| <b>SSB0</b>             | -                | -         | -       |
| <b>MSY</b>              | MSY-MT           | 2010      | 92,000  |
| <b>M</b>                | -                | -         | -       |
| <b>TBlim</b>            | -                | -         | -       |
| <b>SSBlim</b>           | -                | -         | -       |
| <b>Flim</b>             | -                | -         | -       |
| <b>ERlim</b>            | -                | -         | -       |

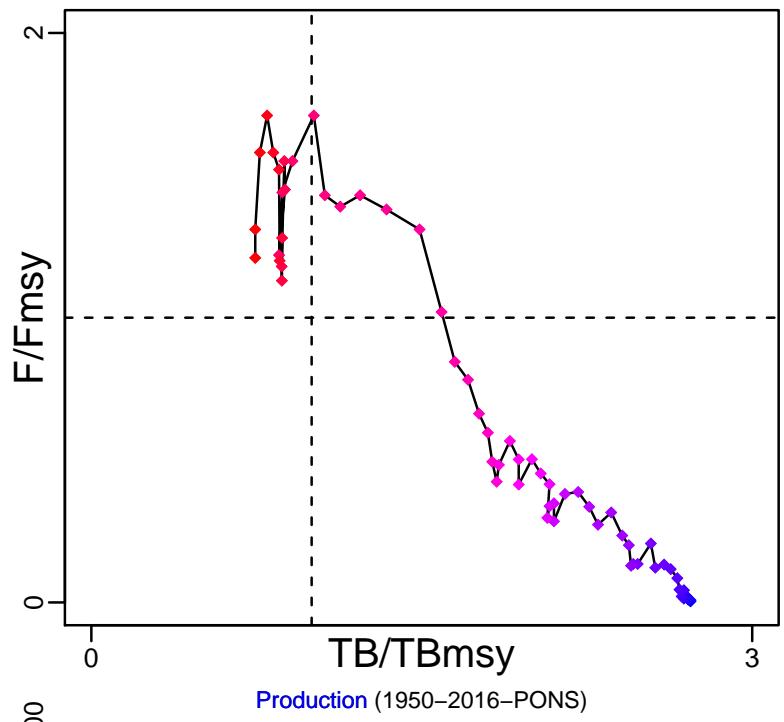
| <b>Time Series</b> |                           |           |            |     |     |  |
|--------------------|---------------------------|-----------|------------|-----|-----|--|
| Type               | ID                        | Asmt Year | Curr Value | Sex | Age |  |
| <b>TB</b>          | TB-MT                     | 2016      | 426,000    | -   | -   |  |
| <b>SSB</b>         | -                         | -         | -          | -   | -   |  |
| <b>TN</b>          | -                         | -         | -          | -   | -   |  |
| <b>R</b>           | -                         | -         | -          | -   | -   |  |
| <b>F</b>           | F-1/yr                    | 2016      | 0.136      | -   | -   |  |
| <b>ER</b>          | ER-calc-ratio             | 2016      | 0.184      | -   | -   |  |
| <b>TC</b>          | TC-MT                     | 2010      | 87,900     |     |     |  |
| <b>TL</b>          | TL-MT                     | 2016      | 72,400     |     |     |  |
| <b>TB/TBmsy</b>    | TBdivTBmsy-dimensionless  | 2016      | 0.744      |     |     |  |
| <b>SSB/SSBmsy</b>  | -                         | -         | -          |     |     |  |
| <b>F/Fmsy</b>      | FdivFmsy-dimensionless    | 2016      | 1.21       |     |     |  |
| <b>ER/ERmsy</b>    | ER-ratio/ERmsy-calc-ratio | 2010      | 0.964      |     |     |  |
| <b>TB/TBmgt</b>    | -                         | -         | -          |     |     |  |
| <b>SSB/SSBmgt</b>  | -                         | -         | -          |     |     |  |
| <b>F/Fmgt</b>      | -                         | -         | -          |     |     |  |
| <b>ER/ERmgt</b>    | -                         | -         | -          |     |     |  |

**Bigeye tuna Atlantic [BIGEYEATL]**

Kobe MSYpref (1950–2016–PONS)

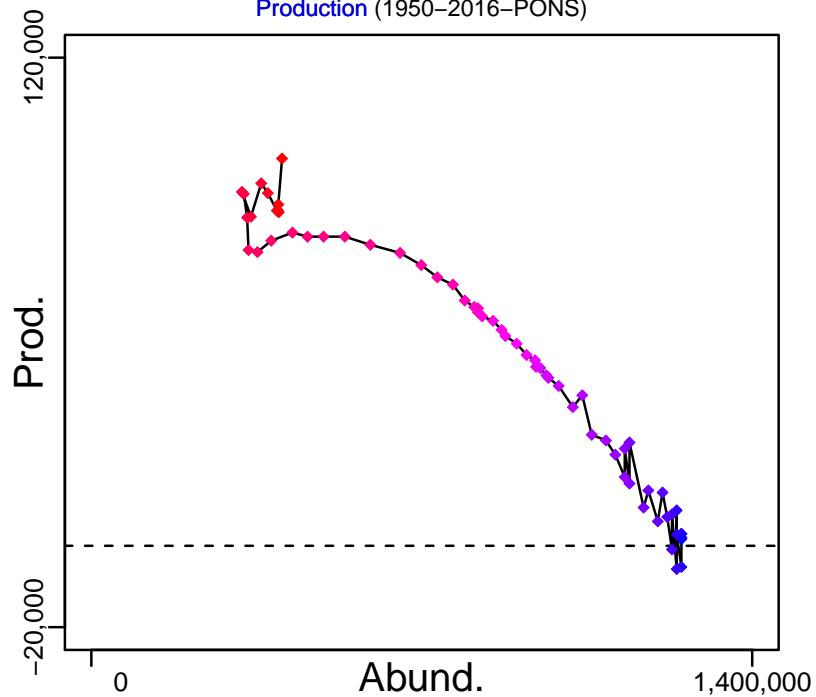


Kobe MGTPref (1950–2016–PONS)



**Spawner Recruit\***

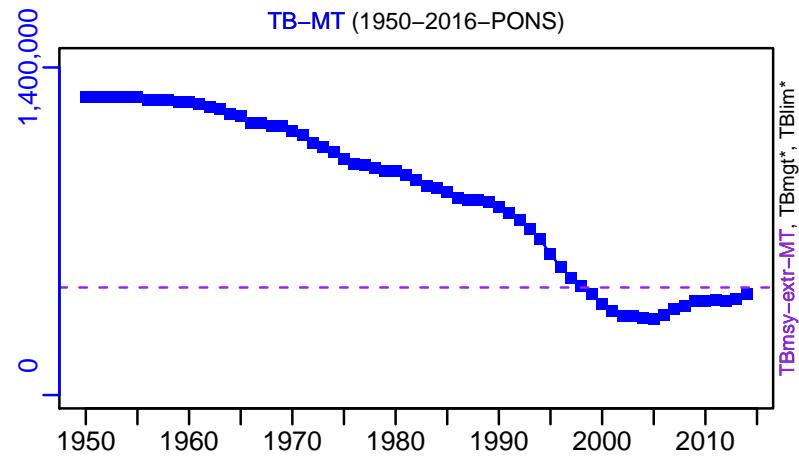
**Production (1950–2016–PONS)**



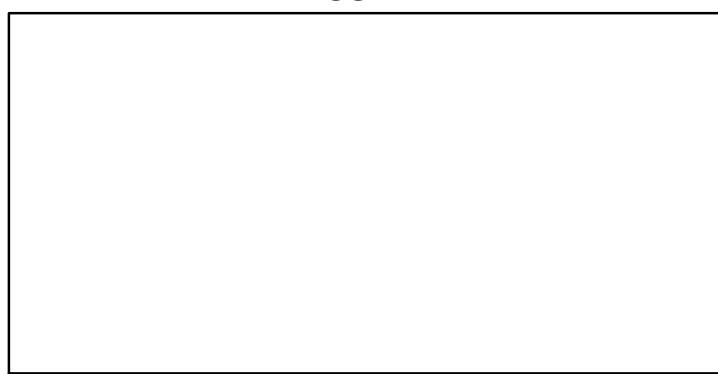
◆ Start Year    ♦ End Year    \* No Data

### Bigeye tuna Atlantic [BIGEYEATL]

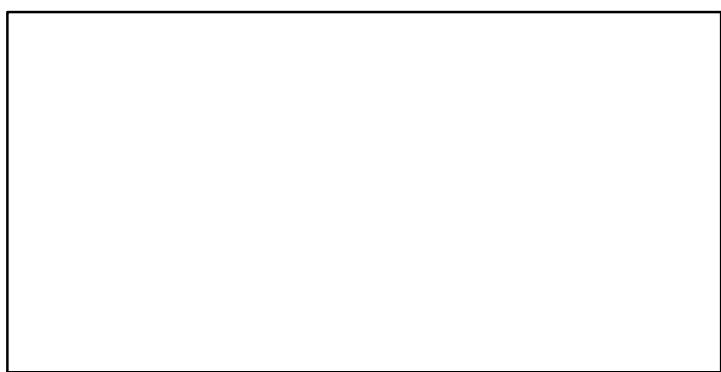
TB-MT (1950–2016-PONS)



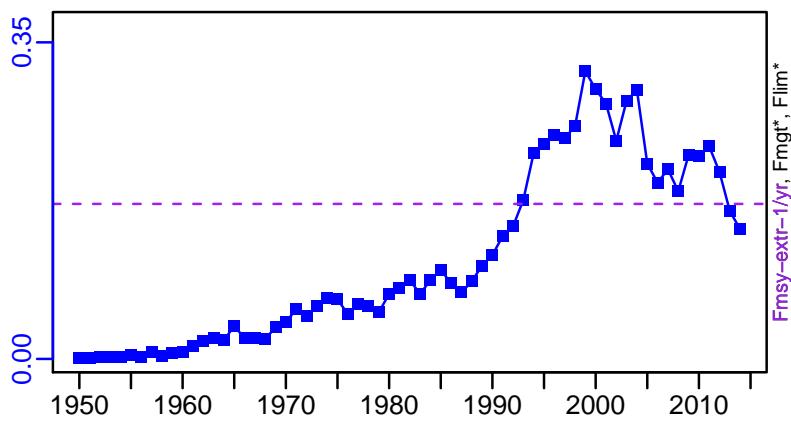
SSB\*



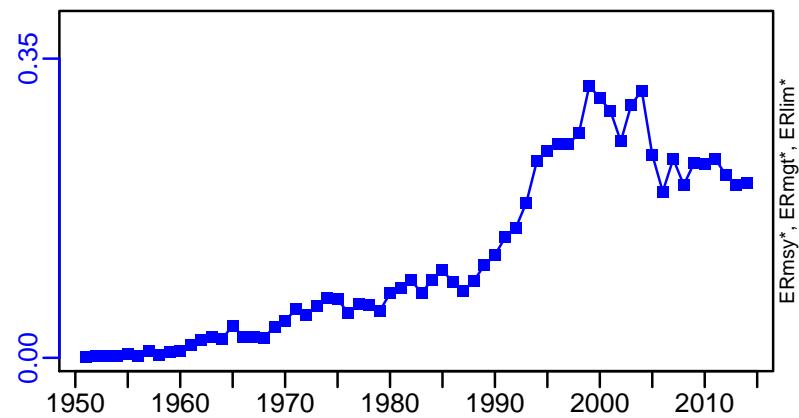
TN \*



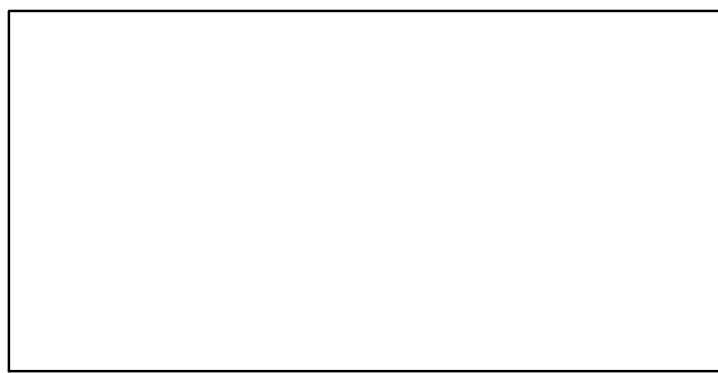
F-1/yr (1950–2016-PONS)



ER-calc-ratio (1950–2016-PONS)



Recruits\*

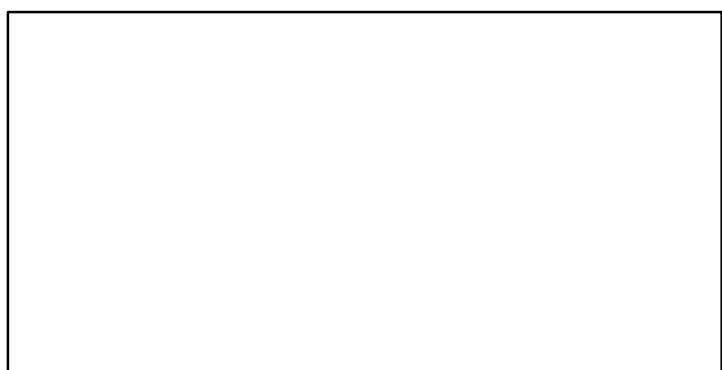
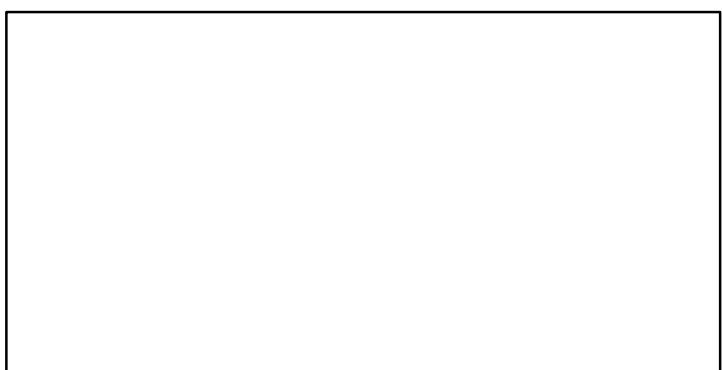
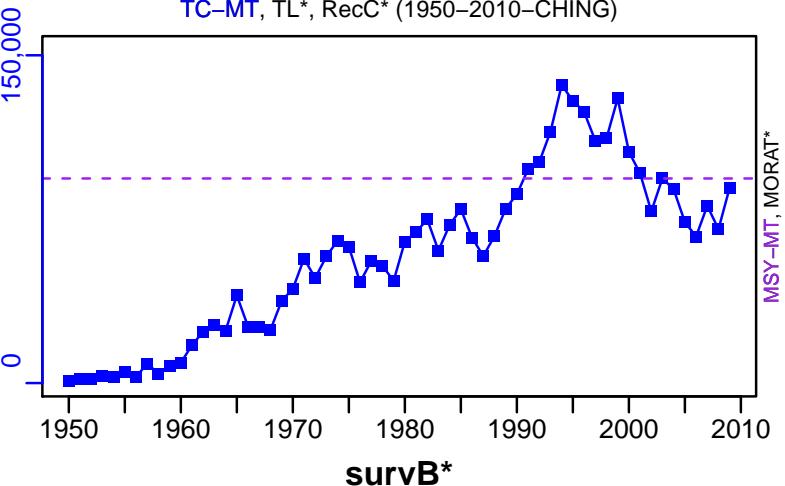


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| - - - MSY-based BRP  | ··· Lim BRP  | ■ No Data |

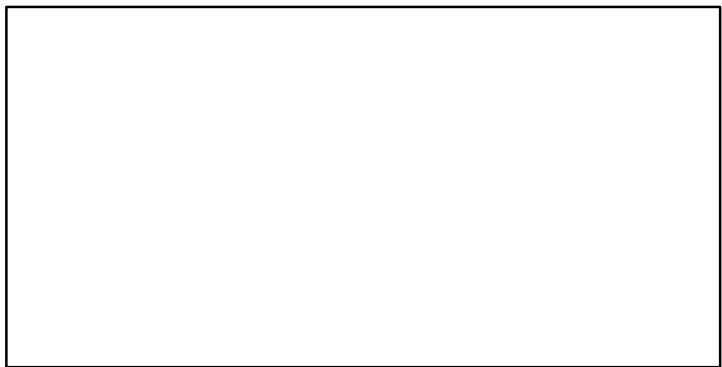
### Bigeye tuna Atlantic [BIGEYEATL]

TC-MT, TL\*, RecC\* (1950–2010–CHING)

TAC\*, Cpair\*, Cadv\*



**EFFORT\***



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

## Blue marlin Atlantic [BMARLINATL]

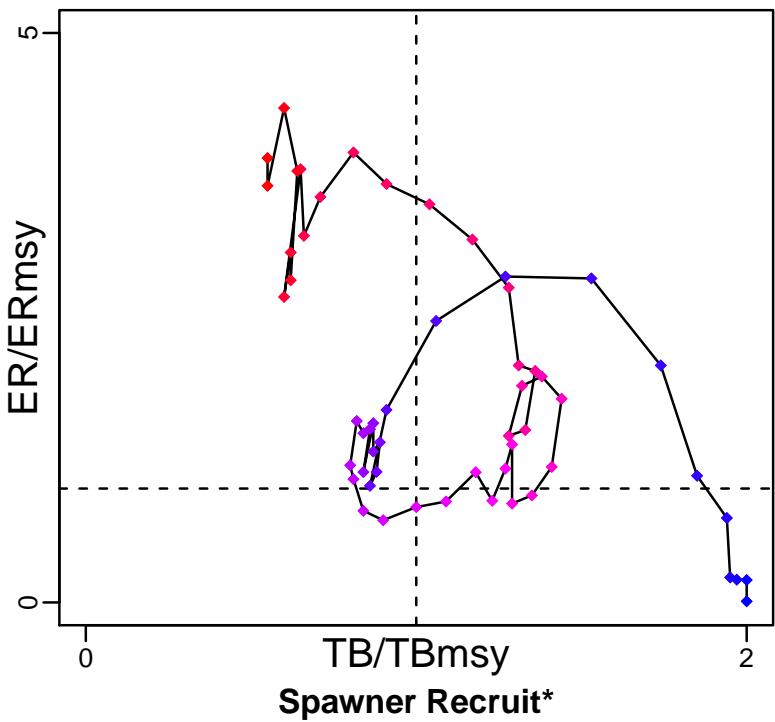
| <b>Metadata</b>             |   |
|-----------------------------|---|
| <b>Scientific Name</b>      | Makaira nigricans   |
| <b>Current Assess ID</b>    | ICCAT-BMARLINATL-1956-2010-CHING                                |
| <b>Area</b>                 | Atlantic Ocean  |
| <b>Management Authority</b> | International Commission for the Conservation of Atlantic Tunas |
| <b>Assessor</b>             | International Commission for the Conservation of Atlantic Tunas |
| <b>Asmts in RAM</b>         | 2010  |

| <b>Reference Points</b> |                  |                  |              |
|-------------------------|------------------|------------------|--------------|
| <b>Type</b>             | <b>ID</b>        | <b>Asmt Year</b> | <b>Value</b> |
| <b>TBmsy</b>            | TBmsy-extr-MT    | 2010             | 32,515       |
| <b>SSBmsy</b>           | -                | -                | -            |
| <b>Fmsy</b>             | -                | -                | -            |
| <b>ERmsy</b>            | ERmsy-calc-ratio | 2010             | 0.062        |
| <b>TBmgt</b>            | -                | -                | -            |
| <b>SSBmgt</b>           | -                | -                | -            |
| <b>Fmgt</b>             | -                | -                | -            |
| <b>ERmgt</b>            | -                | -                | -            |
| <b>TB0</b>              | -                | -                | -            |
| <b>SSB0</b>             | -                | -                | -            |
| <b>MSY</b>              | MSY-MT           | 2010             | 2000         |
| <b>M</b>                | -                | -                | -            |
| <b>TBlim</b>            | -                | -                | -            |
| <b>SSBlim</b>           | -                | -                | -            |
| <b>Flim</b>             | -                | -                | -            |
| <b>ERlim</b>            | -                | -                | -            |

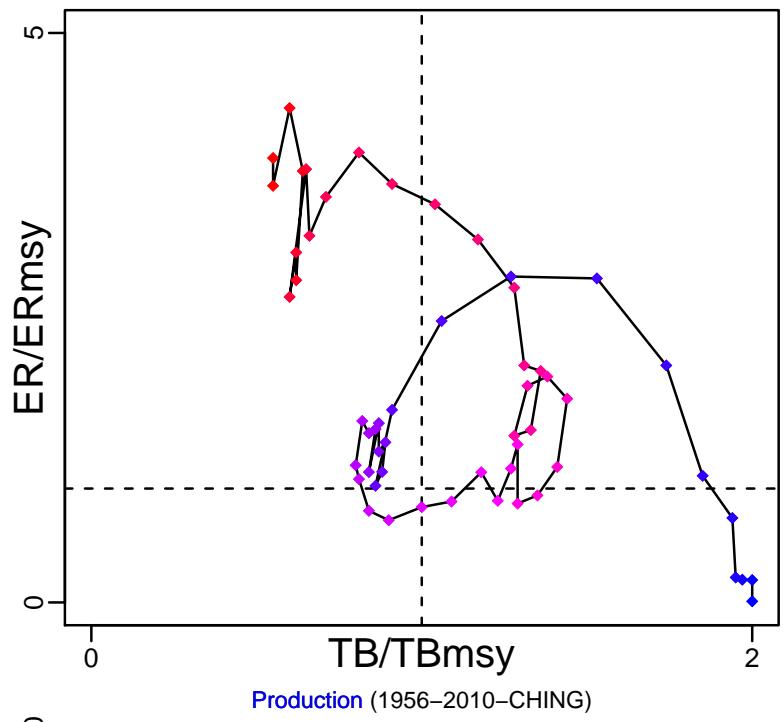
| <b>Time Series</b> |                           |                  |                   |            |            |  |
|--------------------|---------------------------|------------------|-------------------|------------|------------|--|
| <b>Type</b>        | <b>ID</b>                 | <b>Asmt Year</b> | <b>Curr Value</b> | <b>Sex</b> | <b>Age</b> |  |
| <b>TB</b>          | TB-MT                     | 2010             | 14,300            | -          | -          |  |
| <b>SSB</b>         | -                         | -                | -                 | -          | -          |  |
| <b>TN</b>          | -                         | -                | -                 | -          | -          |  |
| <b>R</b>           | -                         | -                | -                 | -          | -          |  |
| <b>F</b>           | F-1/yr                    | 2010             | 0.222             | -          | -          |  |
| <b>ER</b>          | ER-ratio                  | 2010             | 0.24              | -          | -          |  |
| <b>TC</b>          | TC-MT                     | 2010             | 3430              |            |            |  |
| <b>TL</b>          | -                         | -                | -                 |            |            |  |
| <b>TB/TBmsy</b>    | TBdivTBmsy-dimensionless  | 2010             | 0.55              |            |            |  |
| <b>SSB/SSBmsy</b>  | -                         | -                | -                 |            |            |  |
| <b>F/Fmsy</b>      | FdivFmsy-dimensionless    | 2010             | 1.72              |            |            |  |
| <b>ER/ERmsy</b>    | ER-ratio/ERmsy-calc-ratio | 2010             | 3.902             |            |            |  |
| <b>TB/TBmgt</b>    | -                         | -                | -                 |            |            |  |
| <b>SSB/SSBmgt</b>  | -                         | -                | -                 |            |            |  |
| <b>F/Fmgt</b>      | -                         | -                | -                 |            |            |  |
| <b>ER/ERmgt</b>    | -                         | -                | -                 |            |            |  |

**Blue marlin Atlantic [BMARLINATL]**

Kobe MSYpref (1956–2010–CHING)

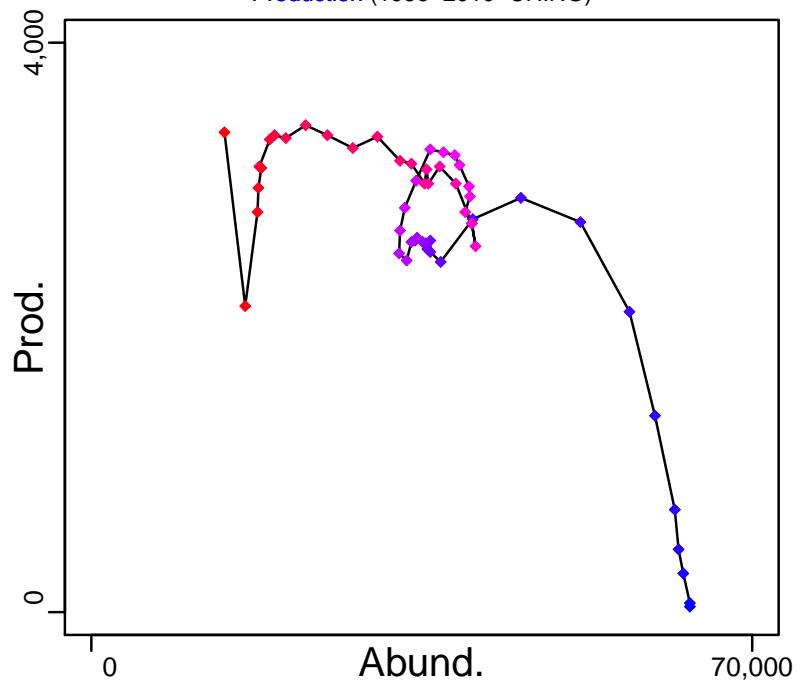
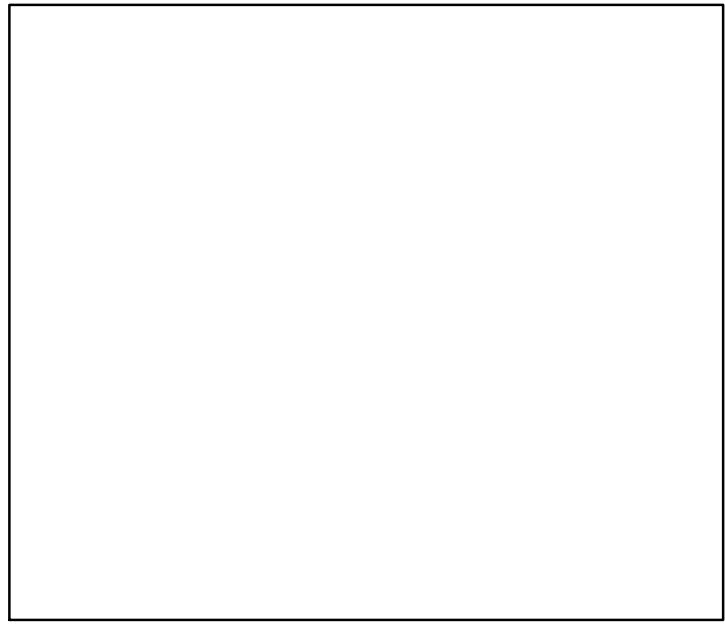


Kobe MGTpref (1956–2010–CHING)



**Spawner Recruit\***

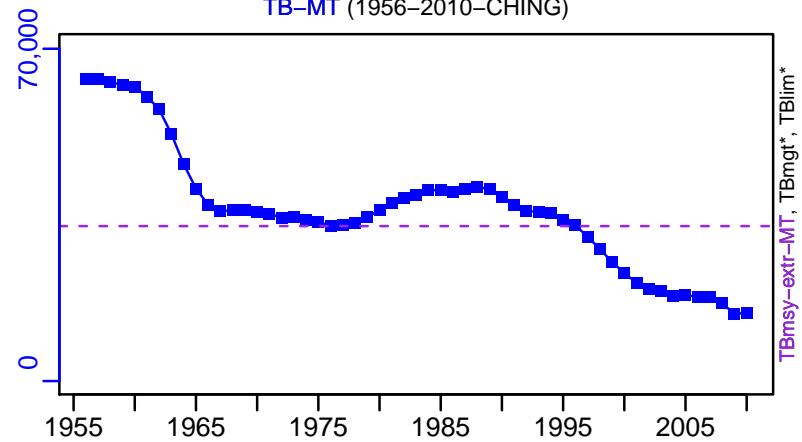
**Production (1956–2010–CHING)**



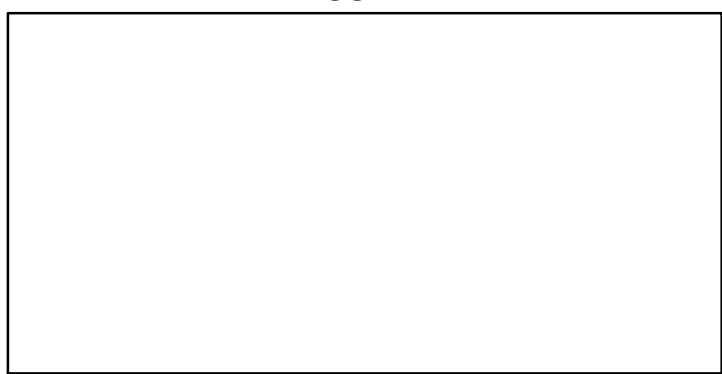
◆ Start Year ◆ End Year \* No Data

### Blue marlin Atlantic [BMARLINATL]

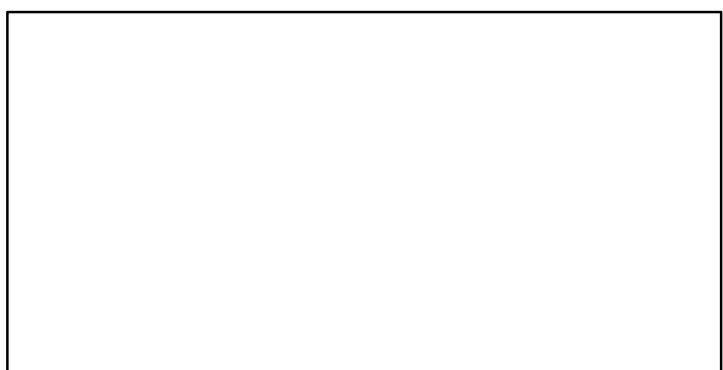
TB-MT (1956–2010–CHING)



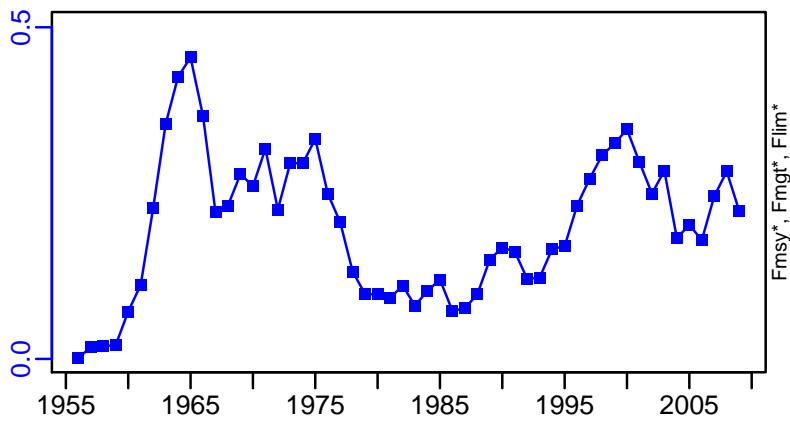
SSB\*



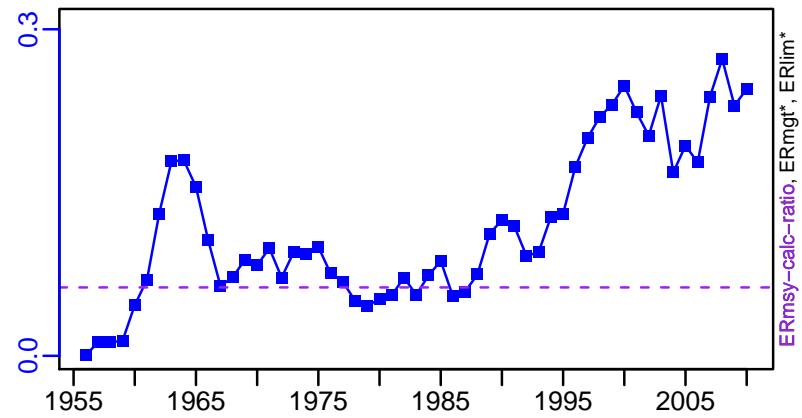
TN \*



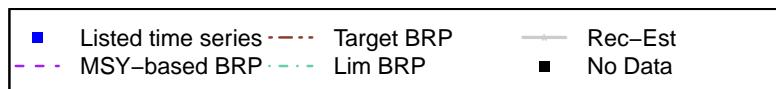
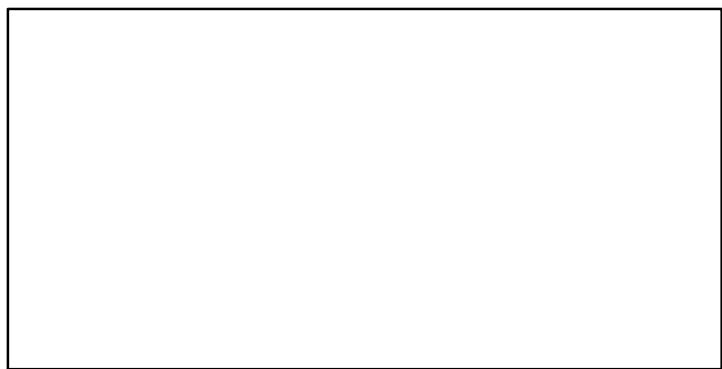
F-1/yr (1956–2010–CHING)



ER-ratio (1956–2010–CHING)



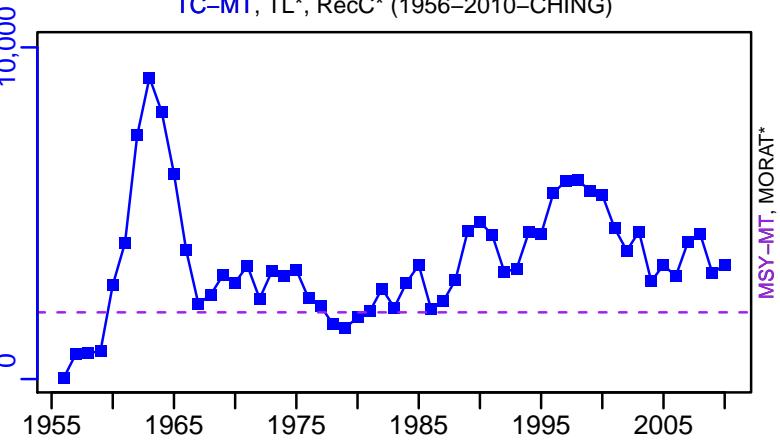
Recruits\*



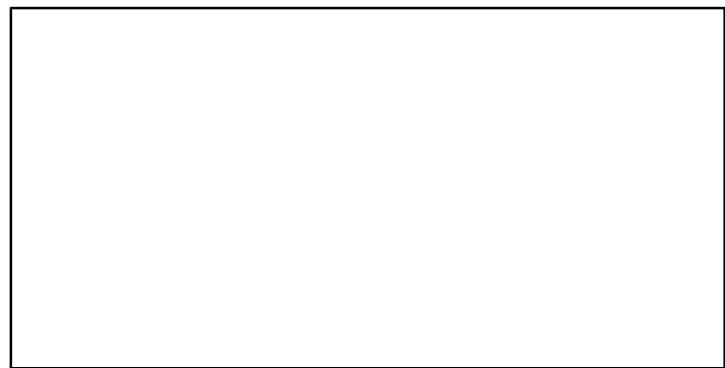
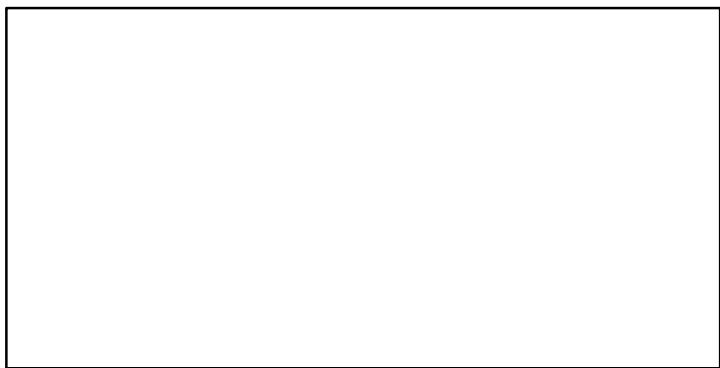
**Blue marlin Atlantic [BMARLINATL]**

TC-MT, TL\*, RecC\* (1956–2010–CHING)

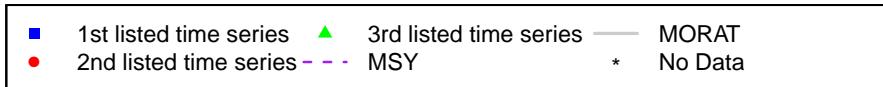
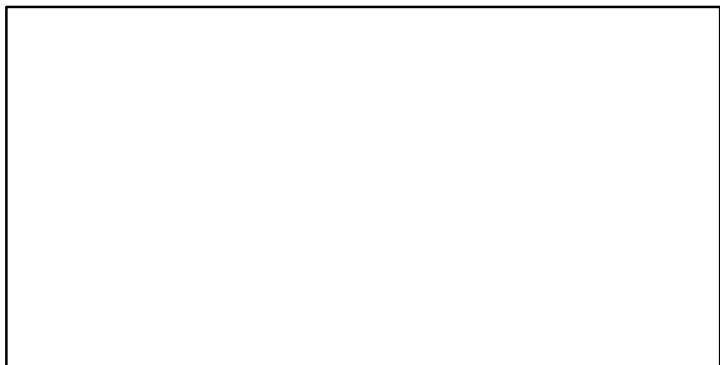
TAC\*, Cpair\*, Cadv\*



TAC\*, Cpair\*, Cadv\*



**EFFORT\***



## Sailfish Eastern Atlantic [SAILEATL]

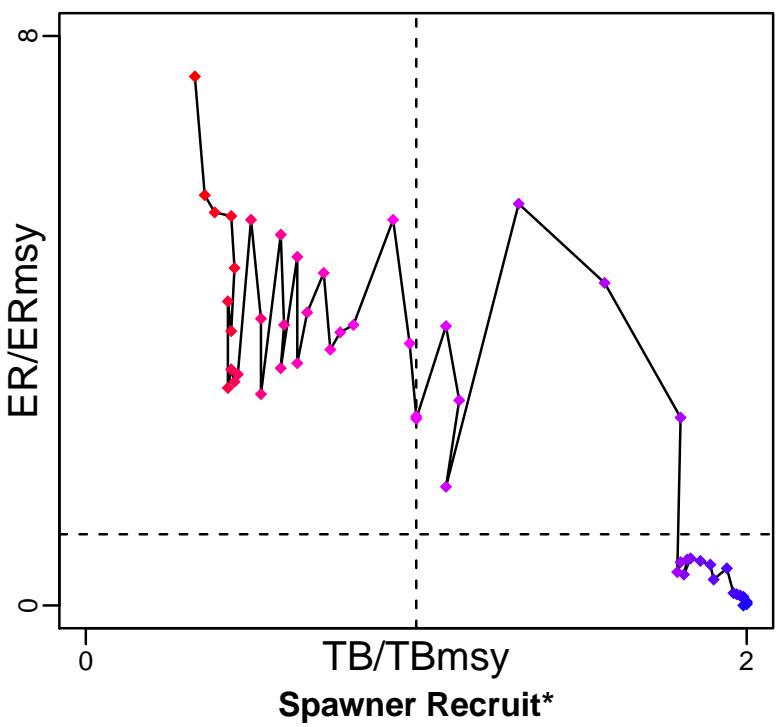
| <b>Metadata</b>             |   |
|-----------------------------|---|
| <b>Scientific Name</b>      | Istiophorus albicans  |
| <b>Current Assess ID</b>    | ICCAT-SAILEATL-1956-2010-CHING                                  |
| <b>Area</b>                 | Eastern Atlantic  |
| <b>Management Authority</b> | International Commission for the Conservation of Atlantic Tunas |
| <b>Assessor</b>             | International Commission for the Conservation of Atlantic Tunas |
| <b>Asmts in RAM</b>         | 2010  |

| <b>Reference Points</b> |                  |                  |              |
|-------------------------|------------------|------------------|--------------|
| <b>Type</b>             | <b>ID</b>        | <b>Asmt Year</b> | <b>Value</b> |
| <b>TBmsy</b>            | TBmsy-extr-MT    | 2010             | 14,775       |
| <b>SSBmsy</b>           | -                | -                | -            |
| <b>Fmsy</b>             | Fmsy-1/yr        | 2010             | 0.145        |
| <b>ERmsy</b>            | ERmsy-calc-ratio | 2010             | 0.058        |
| <b>TBmgt</b>            | -                | -                | -            |
| <b>SSBmgt</b>           | -                | -                | -            |
| <b>Fmgt</b>             | -                | -                | -            |
| <b>ERmgt</b>            | -                | -                | -            |
| <b>TB0</b>              | TB0-MT           | 2010             | 24,320       |
| <b>SSB0</b>             | -                | -                | -            |
| <b>MSY</b>              | MSY-MT           | 2010             | 851          |
| <b>M</b>                | -                | -                | -            |
| <b>TBlim</b>            | -                | -                | -            |
| <b>SSBlim</b>           | -                | -                | -            |
| <b>Flim</b>             | -                | -                | -            |
| <b>ERlim</b>            | -                | -                | -            |

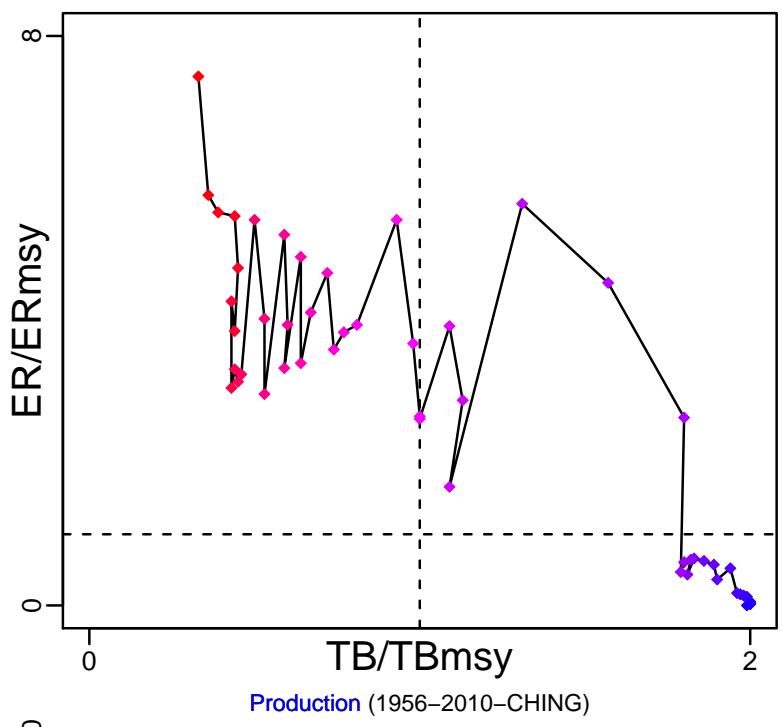
| <b>Time Series</b> |                           |                  |                   |            |            |  |
|--------------------|---------------------------|------------------|-------------------|------------|------------|--|
| <b>Type</b>        | <b>ID</b>                 | <b>Asmt Year</b> | <b>Curr Value</b> | <b>Sex</b> | <b>Age</b> |  |
| <b>TB</b>          | TB-MT                     | 2010             | 3620              | -          | -          |  |
| <b>SSB</b>         | -                         | -                | -                 | -          | -          |  |
| <b>TN</b>          | -                         | -                | -                 | -          | -          |  |
| <b>R</b>           | -                         | -                | -                 | -          | -          |  |
| <b>F</b>           | -                         | -                | -                 | -          | -          |  |
| <b>ER</b>          | ER-ratio                  | 2010             | 0.428             | -          | -          |  |
| <b>TC</b>          | TC-MT                     | 2010             | 2770              |            |            |  |
| <b>TL</b>          | -                         | -                | -                 |            |            |  |
| <b>TB/TBmsy</b>    | TBdivTBmsy-dimensionless  | 2010             | 0.26              |            |            |  |
| <b>SSB/SSBmsy</b>  | -                         | -                | -                 |            |            |  |
| <b>F/Fmsy</b>      | FdivFmsy-dimensionless    | 2010             | 3.08              |            |            |  |
| <b>ER/ERmsy</b>    | ER-ratio/ERmsy-calc-ratio | 2010             | 7.431             |            |            |  |
| <b>TB/TBmgt</b>    | -                         | -                | -                 |            |            |  |
| <b>SSB/SSBmgt</b>  | -                         | -                | -                 |            |            |  |
| <b>F/Fmgt</b>      | -                         | -                | -                 |            |            |  |
| <b>ER/ERmgt</b>    | -                         | -                | -                 |            |            |  |

Sailfish Eastern Atlantic [SAILEATL]

Kobe MSYpref (1956–2010–CHING)

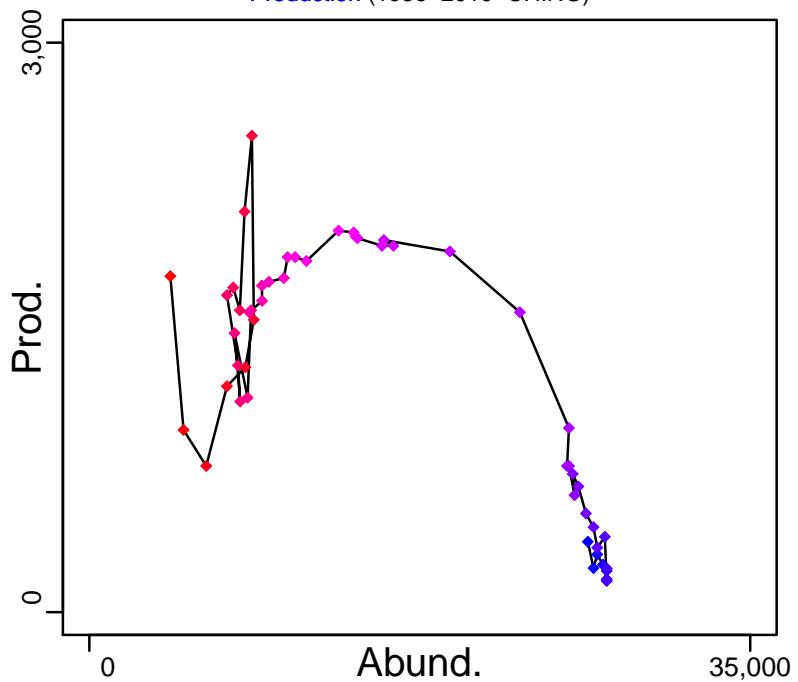


Kobe MGTpref (1956–2010–CHING)



Spawner Recruit\*

Production (1956–2010–CHING)

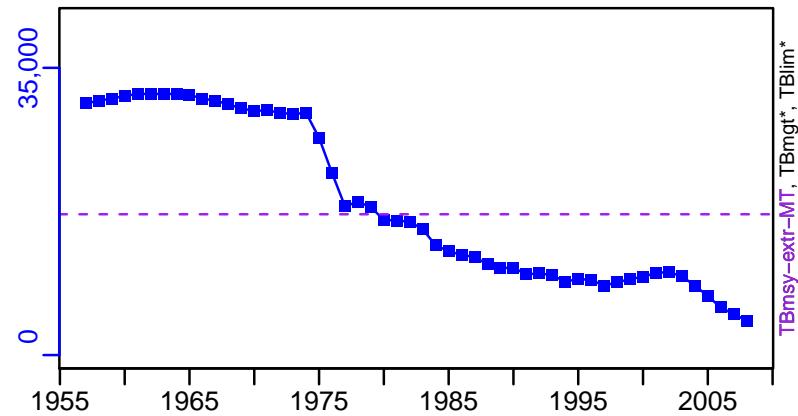


◆ Start Year   ◆ End Year   \* No Data

Sailfish Eastern Atlantic [SAILEATL]

TB-MT (1956–2010–CHING)

SSB\*



TN \*

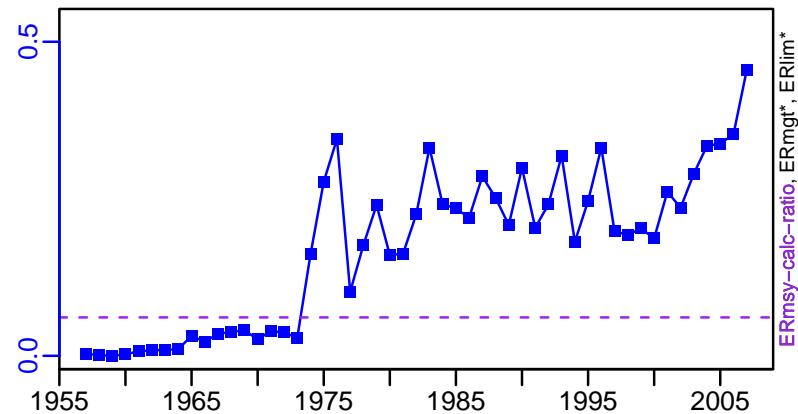


F\*



ER-ratio (1956–2010–CHING)

Recruits\*

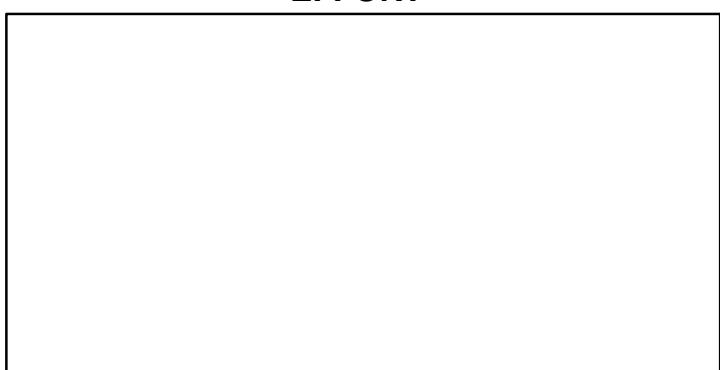
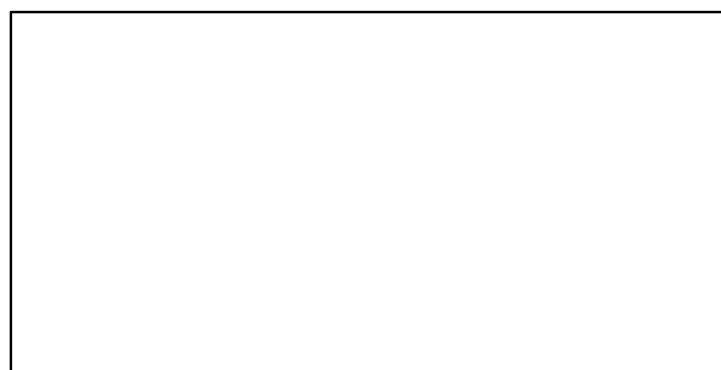
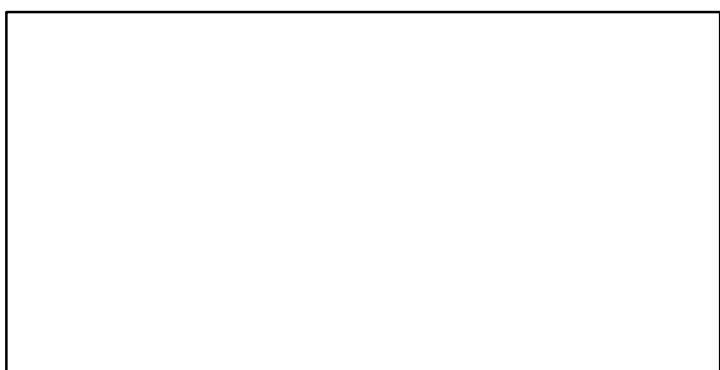
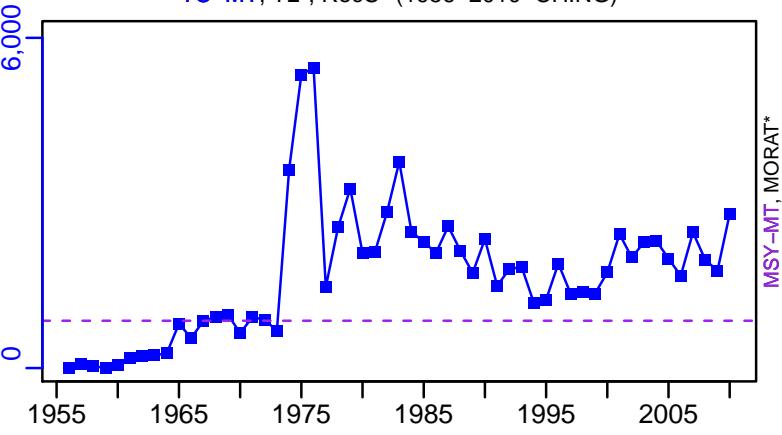


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| - - MSY-based BRP    | --- Lim BRP  | ■ No Data |

Sailfish Eastern Atlantic [SAILEATL]

TC-MT, TL\*, RecC\* (1956–2010–CHING)

TAC\*, Cpair\*, Cadv\*



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

## Sailfish Western Atlantic [SAILWATL]

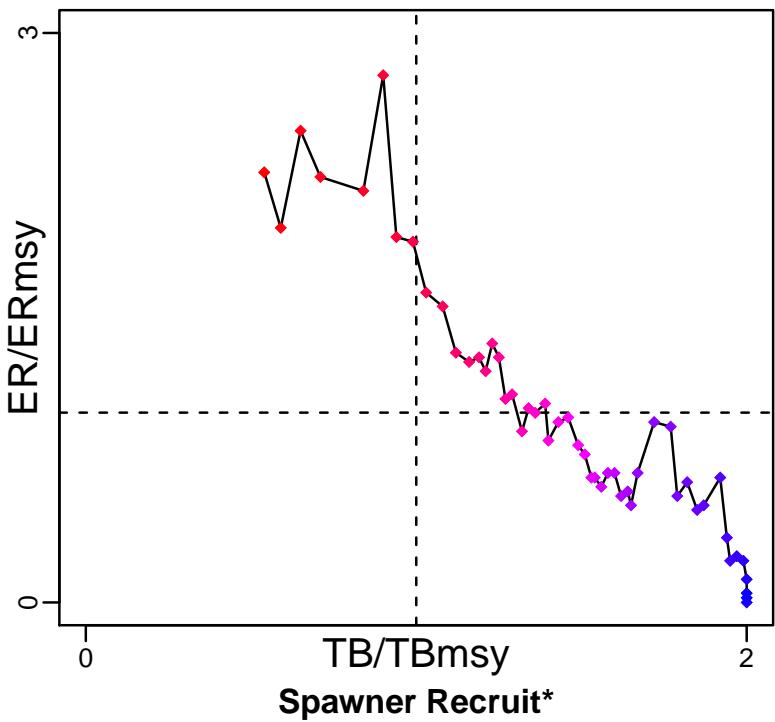
| <b>Metadata</b>             |   |
|-----------------------------|---|
| <b>Scientific Name</b>      | Istiophorus albicans  |
| <b>Current Assess ID</b>    | ICCAT-SAILWATL-1956-2010-CHING                                  |
| <b>Area</b>                 | Western Atlantic  |
| <b>Management Authority</b> | International Commission for the Conservation of Atlantic Tunas |
| <b>Assessor</b>             | International Commission for the Conservation of Atlantic Tunas |
| <b>Asmts in RAM</b>         | 2010  |

| <b>Reference Points</b> |                  |                  |              |
|-------------------------|------------------|------------------|--------------|
| <b>Type</b>             | <b>ID</b>        | <b>Asmt Year</b> | <b>Value</b> |
| <b>TBmsy</b>            | TBmsy-extr-MT    | 2010             | 20,708       |
| <b>SSBmsy</b>           | -                | -                | -            |
| <b>Fmsy</b>             | Fmsy-1/yr        | 2010             | 0.043        |
| <b>ERmsy</b>            | ERmsy-calc-ratio | 2010             | 0.041        |
| <b>TBmgt</b>            | -                | -                | -            |
| <b>SSBmgt</b>           | -                | -                | -            |
| <b>Fmgt</b>             | -                | -                | -            |
| <b>ERmgt</b>            | -                | -                | -            |
| <b>TB0</b>              | TB0-MT           | 2010             | 41,070       |
| <b>SSB0</b>             | -                | -                | -            |
| <b>MSY</b>              | MSY-MT           | 2010             | 850          |
| <b>M</b>                | -                | -                | -            |
| <b>TBlim</b>            | -                | -                | -            |
| <b>SSBlim</b>           | -                | -                | -            |
| <b>Flim</b>             | -                | -                | -            |
| <b>ERlim</b>            | -                | -                | -            |

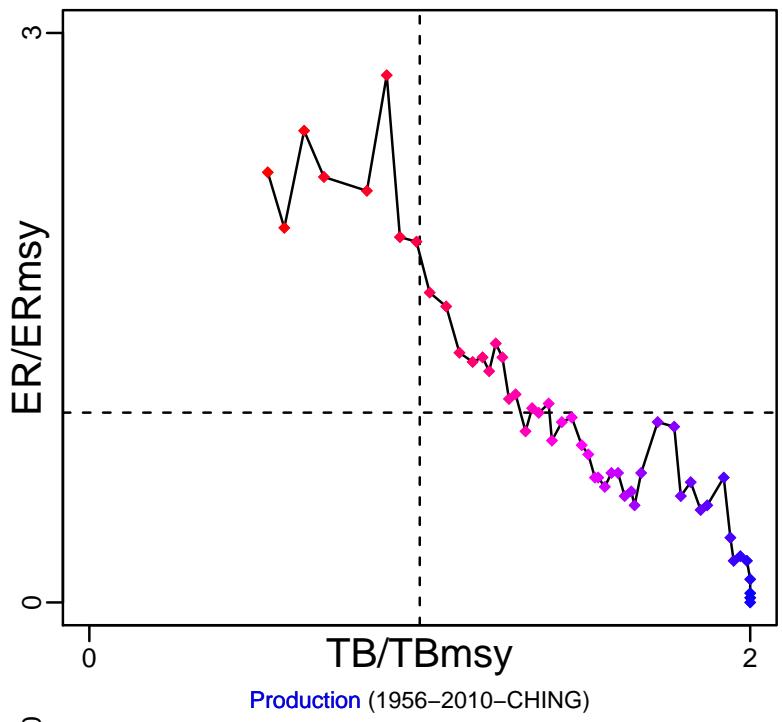
| <b>Time Series</b> |                           |                  |                   |            |            |  |
|--------------------|---------------------------|------------------|-------------------|------------|------------|--|
| <b>Type</b>        | <b>ID</b>                 | <b>Asmt Year</b> | <b>Curr Value</b> | <b>Sex</b> | <b>Age</b> |  |
| <b>TB</b>          | TB-MT                     | 2010             | 14,500            | -          | -          |  |
| <b>SSB</b>         | -                         | -                | -                 | -          | -          |  |
| <b>TN</b>          | -                         | -                | -                 | -          | -          |  |
| <b>R</b>           | -                         | -                | -                 | -          | -          |  |
| <b>F</b>           | -                         | -                | -                 | -          | -          |  |
| <b>ER</b>          | ER-ratio                  | 2010             | 0.093             | -          | -          |  |
| <b>TC</b>          | TC-MT                     | 2010             | 625               |            |            |  |
| <b>TL</b>          | -                         | -                | -                 |            |            |  |
| <b>TB/TBmsy</b>    | TBdivTBmsy-dimensionless  | 2010             | 0.28              |            |            |  |
| <b>SSB/SSBmsy</b>  | -                         | -                | -                 |            |            |  |
| <b>F/Fmsy</b>      | FdivFmsy-dimensionless    | 2010             | 2.2               |            |            |  |
| <b>ER/ERmsy</b>    | ER-ratio/ERmsy-calc-ratio | 2010             | 2.266             |            |            |  |
| <b>TB/TBmgt</b>    | -                         | -                | -                 |            |            |  |
| <b>SSB/SSBmgt</b>  | -                         | -                | -                 |            |            |  |
| <b>F/Fmgt</b>      | -                         | -                | -                 |            |            |  |
| <b>ER/ERmgt</b>    | -                         | -                | -                 |            |            |  |

### Sailfish Western Atlantic [SAILWATL]

Kobe MSYpref (1956–2010–CHING)

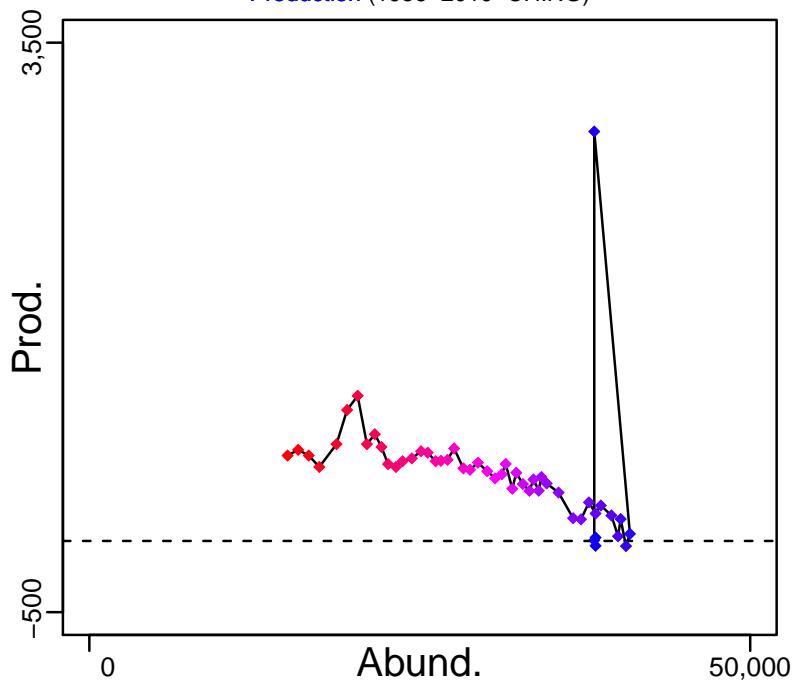
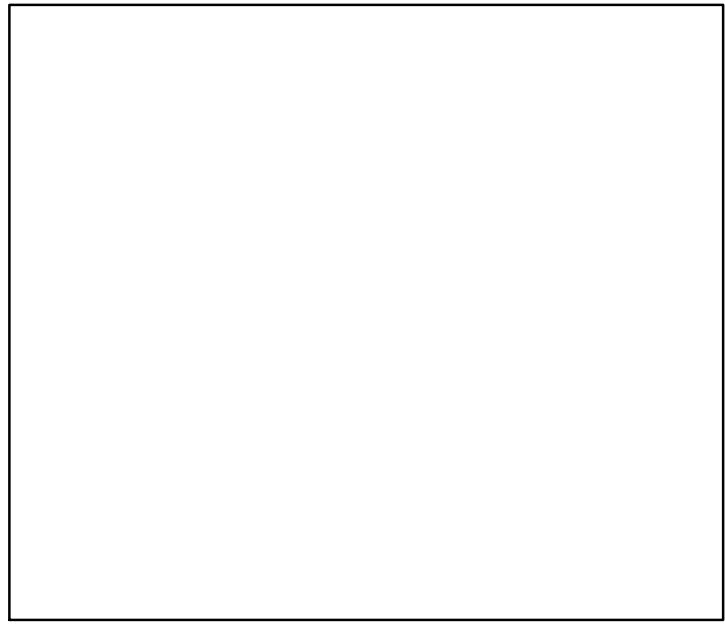


Kobe MGTPref (1956–2010–CHING)



Spawner Recruit\*

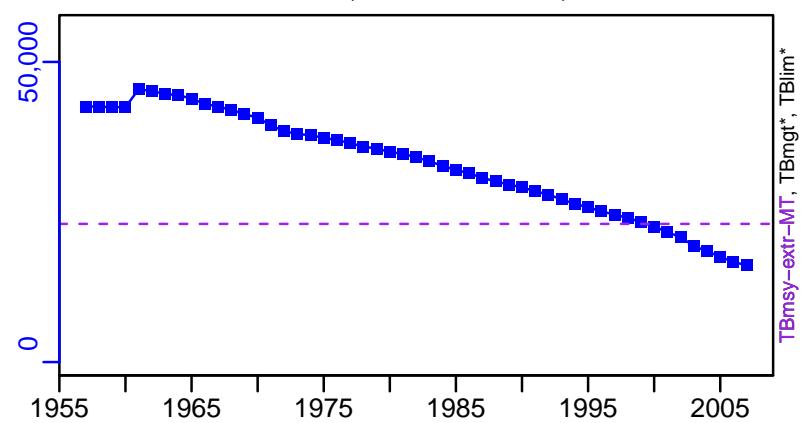
Production (1956–2010–CHING)



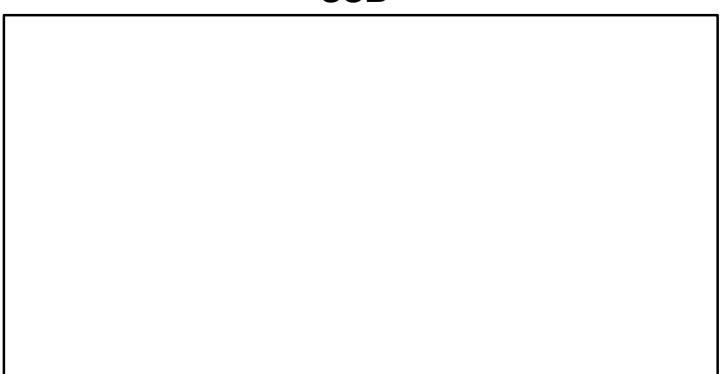
◆ Start Year ◆ End Year \* No Data

Sailfish Western Atlantic [SAILWATL]

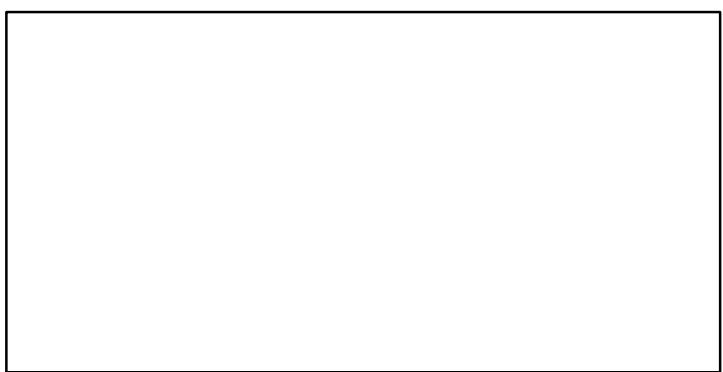
TB-MT (1956–2010–CHING)



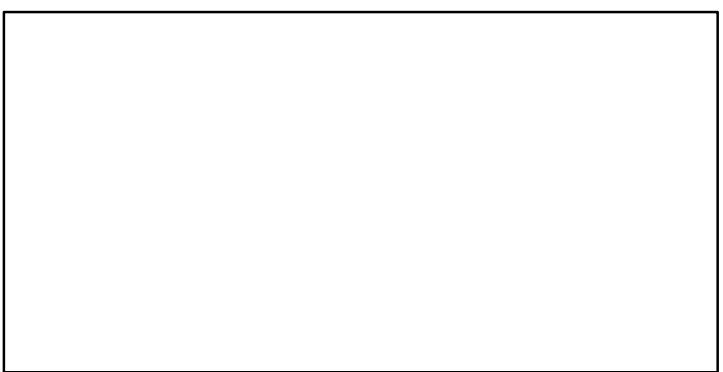
SSB\*



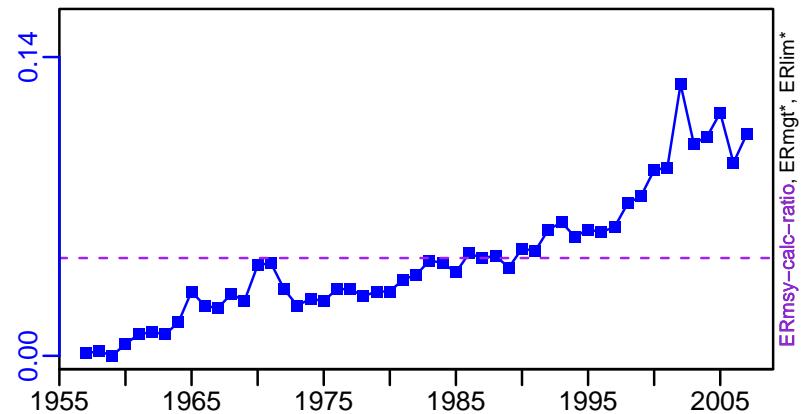
TN \*



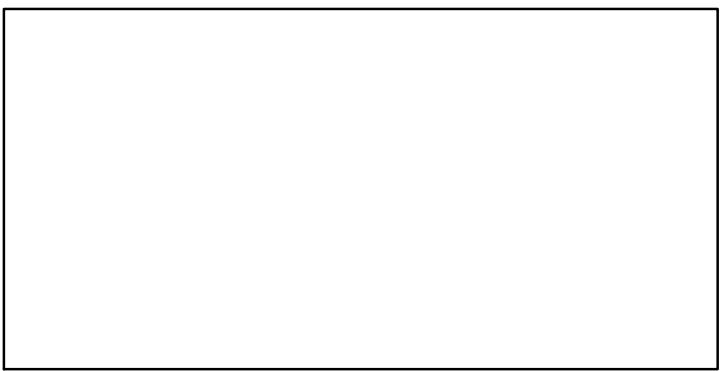
F\*



ER-ratio (1956–2010–CHING)



Recruits\*

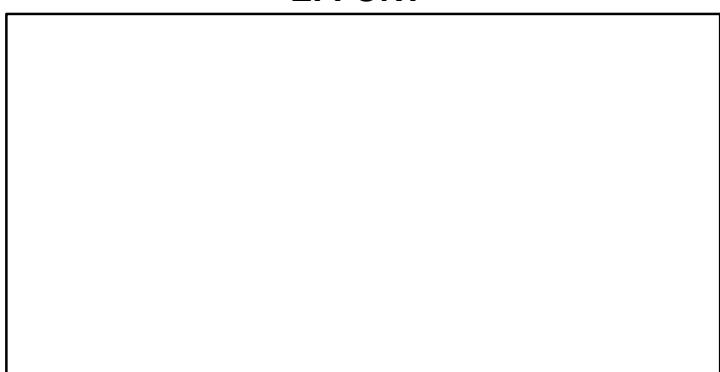
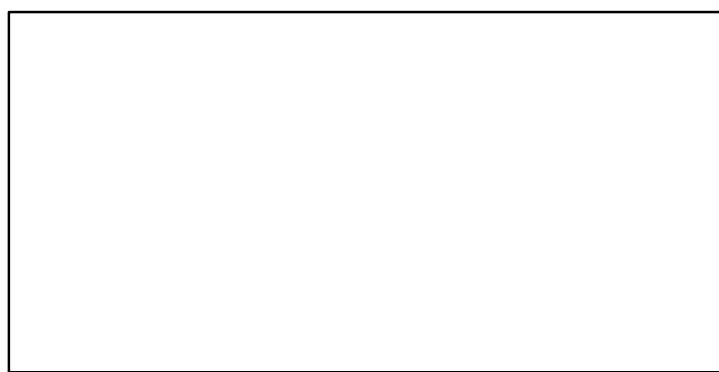
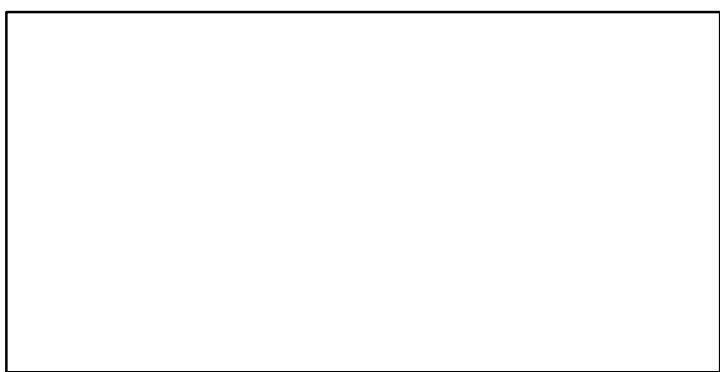
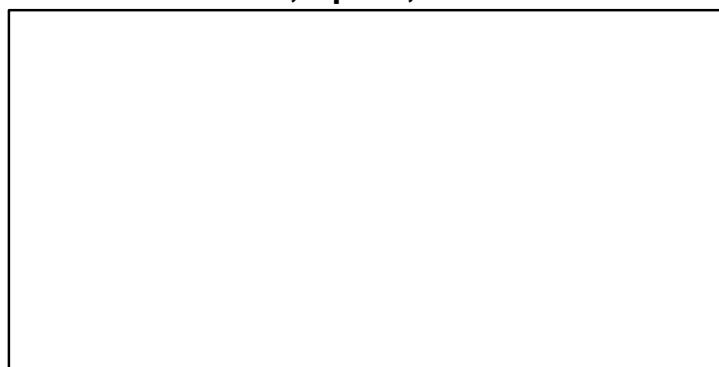
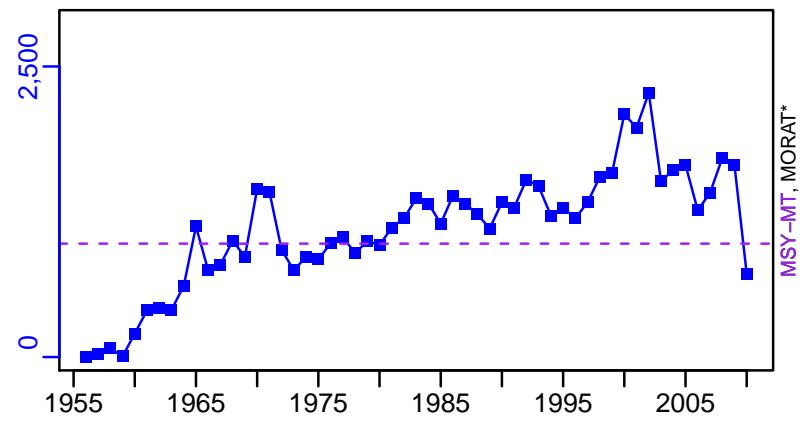


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| - - - MSY-based BRP  | --- Lim BRP  | ■ No Data |

Sailfish Western Atlantic [SAILWATL]

TC-MT, TL\*, RecC\* (1956–2010–CHING)

TAC\*, Cpair\*, Cadv\*



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

## Skipjack tuna Eastern Atlantic [SKJEATL]

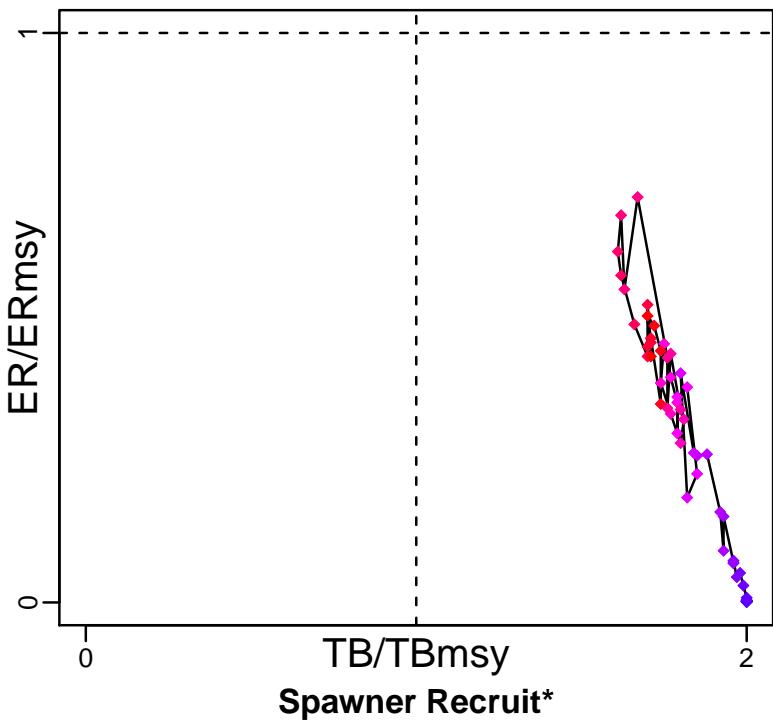
| Metadata             |   |
|----------------------|---|
| Scientific Name      | Katsuwonus pelamis  |
| Current Assess ID    | ICCAT-SKJEATL-1951-2016-PONS                                    |
| Area                 | Eastern Atlantic  |
| Management Authority | International Commission for the Conservation of Atlantic Tunas |
| Assessor             | International Commission for the Conservation of Atlantic Tunas |
| Asmts in RAM         | 2010, 2016  |

| Reference Points |                  |           |         |
|------------------|------------------|-----------|---------|
| Type             | ID               | Asmt Year | Value   |
| TBmsy            | TBmsy-extr-MT    | 2010      | 384,115 |
| SSBmsy           | -                | -         | -       |
| Fmsy             | Fmsy-1/yr        | 2010      | 0.637   |
| ERmsy            | ERmsy-calc-ratio | 2010      | 0.407   |
| TBmgt            | -                | -         | -       |
| SSBmgt           | -                | -         | -       |
| Fmgt             | -                | -         | -       |
| ERmgt            | -                | -         | -       |
| TB0              | -                | -         | -       |
| SSB0             | -                | -         | -       |
| MSY              | MSY-MT           | 2010      | 156,500 |
| M                | -                | -         | -       |
| TBlim            | -                | -         | -       |
| SSBlim           | -                | -         | -       |
| Flim             | -                | -         | -       |
| ERlim            | -                | -         | -       |

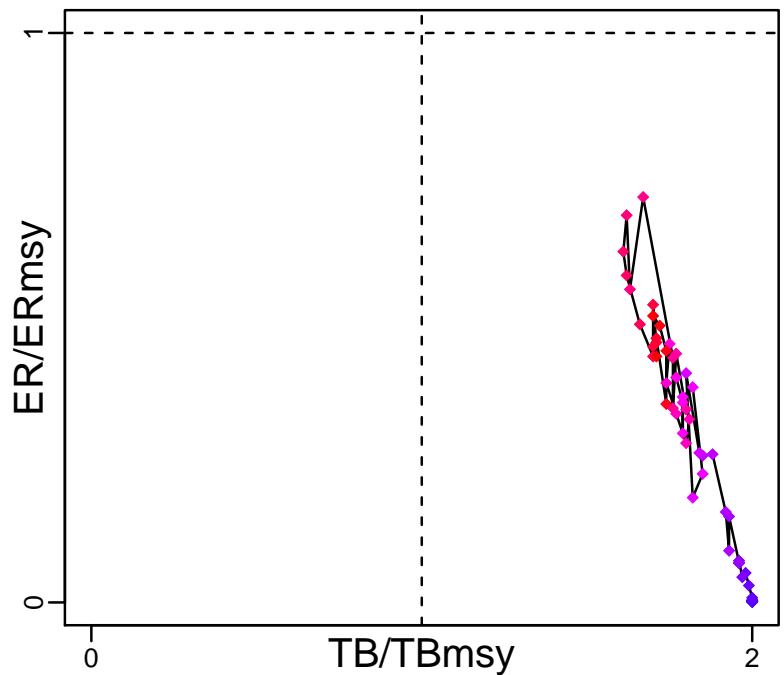
| Time Series |                           |           |            |     |     |  |
|-------------|---------------------------|-----------|------------|-----|-----|--|
| Type        | ID                        | Asmt Year | Curr Value | Sex | Age |  |
| TB          | TB-MT                     | 2010      | 656,000    | -   | -   |  |
| SSB         | -                         | -         | -          | -   | -   |  |
| TN          | -                         | -         | -          | -   | -   |  |
| R           | -                         | -         | -          | -   | -   |  |
| F           | F-1/yr                    | 2010      | 0.172      | -   | -   |  |
| ER          | ER-ratio                  | 2010      | 0.176      | -   | -   |  |
| TC          | TC-MT                     | 2010      | 164,000    |     |     |  |
| TL          | TL-MT                     | 2016      | 217,000    |     |     |  |
| TB/TBmsy    | TBdivTBmsy-dimensionless  | 2010      | 1.71       |     |     |  |
| SSB/SSBmsy  | -                         | -         | -          |     |     |  |
| F/Fmsy      | FdivFmsy-dimensionless    | 2010      | 0.27       |     |     |  |
| ER/ERmsy    | ER-ratio/ERmsy-calc-ratio | 2010      | 0.432      |     |     |  |
| TB/TBmgt    | -                         | -         | -          |     |     |  |
| SSB/SSBmgt  | -                         | -         | -          |     |     |  |
| F/Fmgt      | -                         | -         | -          |     |     |  |
| ER/ERmgt    | -                         | -         | -          |     |     |  |

Skipjack tuna Eastern Atlantic [SKJEATL]

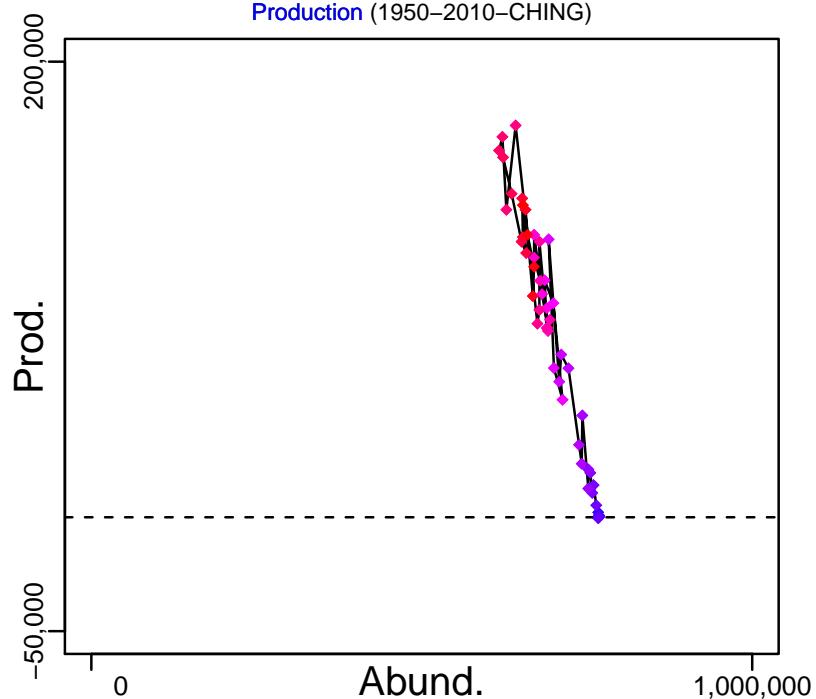
Kobe MSYpref (1950–2010–CHING)



Kobe MGTPref (1950–2010–CHING)



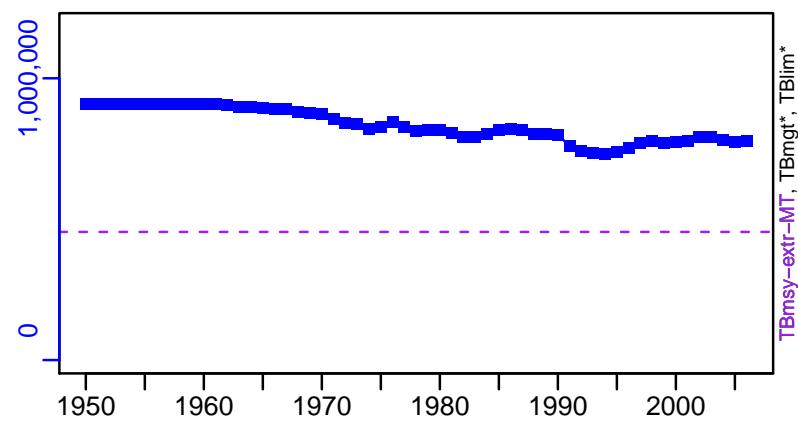
Production (1950–2010–CHING)



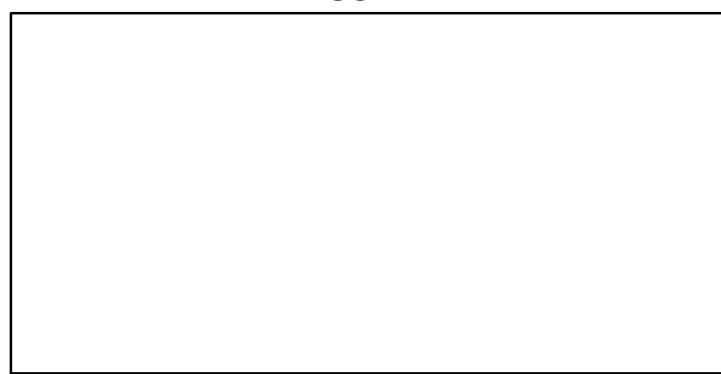
- ◆ Start Year
- ◆ End Year
- \* No Data

Skipjack tuna Eastern Atlantic [SKJEATL]

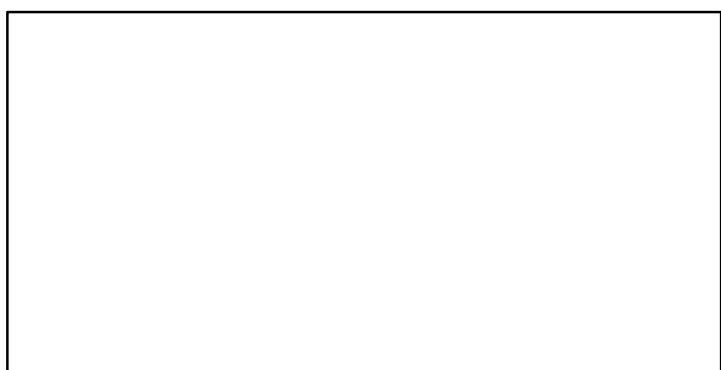
TB-MT (1950–2010–CHING)



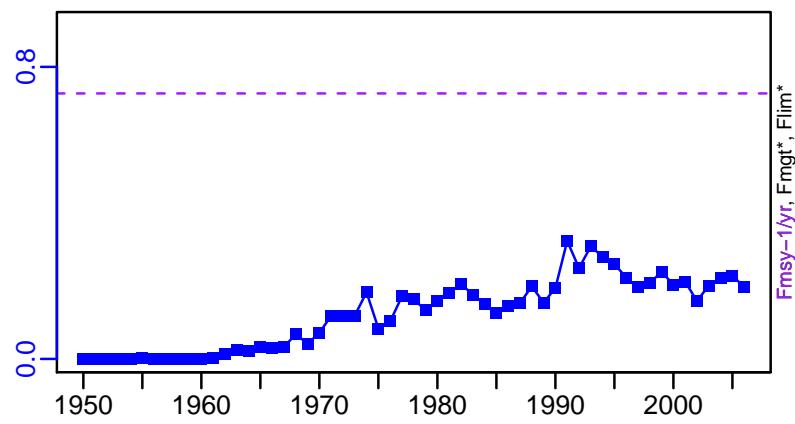
SSB\*



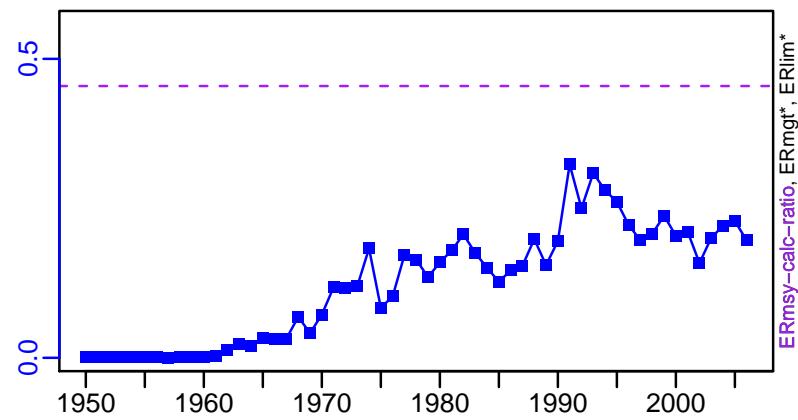
TN \*



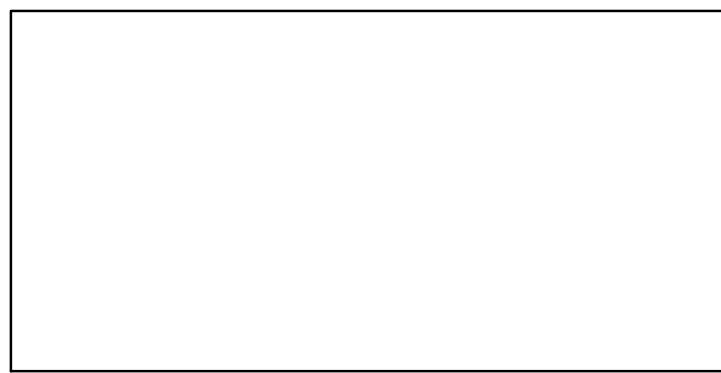
F-1/yr (1950–2010–CHING)



ER-ratio (1950–2010–CHING)



Recruits\*

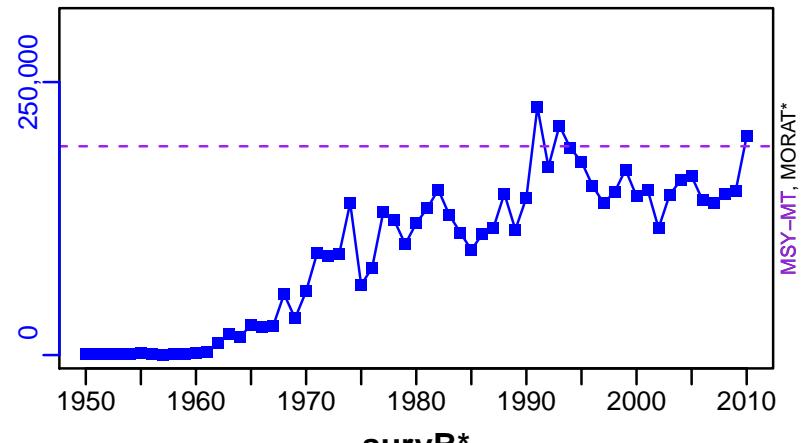


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| - - - MSY-based BRP  | ··· Lim BRP  | ■ No Data |

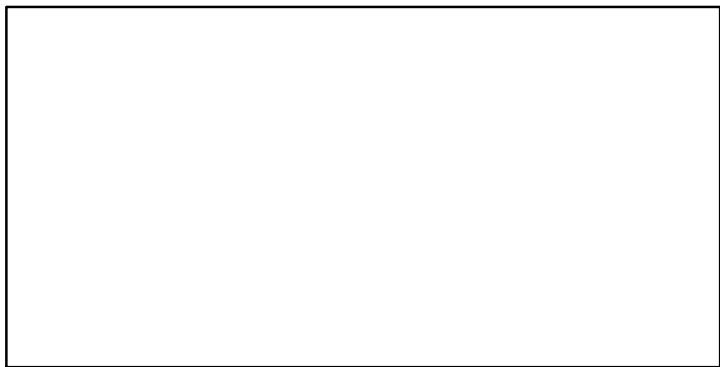
Skipjack tuna Eastern Atlantic [SKJEATL]

TC-MT, TL\*, RecC\* (1950–2010–CHING)

TAC\*, Cpair\*, Cadv\*



EFFORT\*



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

## Skipjack tuna Western Atlantic [SKJWATL]

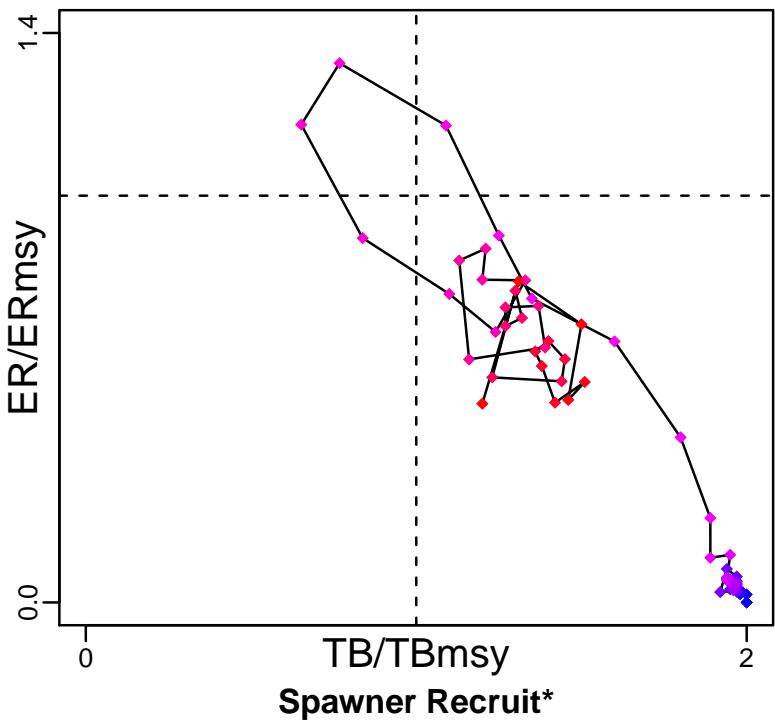
| Metadata                    |   |
|-----------------------------|---|
| <b>Scientific Name</b>      | Katsuwonus pelamis  |
| <b>Current Assess ID</b>    | ICCAT-SKJWATL-1950-2014-PONS                                    |
| <b>Area</b>                 | Western Atlantic  |
| <b>Management Authority</b> | International Commission for the Conservation of Atlantic Tunas |
| <b>Assessor</b>             | International Commission for the Conservation of Atlantic Tunas |
| <b>Asmts in RAM</b>         | 2014  |

| Reference Points |                  |           |        |
|------------------|------------------|-----------|--------|
| Type             | ID               | Asmt Year | Value  |
| <b>TBmsy</b>     | TBmsy-MT         | 2014      | 29,160 |
| <b>SSBmsy</b>    | -                | -         | -      |
| <b>Fmsy</b>      | Fmsy-1/yr        | 2014      | 1.08   |
| <b>ERmsy</b>     | ERmsy-calc-ratio | 2014      | 1.084  |
| <b>TBmgt</b>     | TBmgt-MT         | 2014      | 29,160 |
| <b>SSBmgt</b>    | -                | -         | -      |
| <b>Fmgt</b>      | Fmgt-1/yr        | 2014      | 1.08   |
| <b>ERmgt</b>     | -                | -         | -      |
| <b>TB0</b>       | -                | -         | -      |
| <b>SSB0</b>      | -                | -         | -      |
| <b>MSY</b>       | MSY-MT           | 2014      | 31,620 |
| <b>M</b>         | -                | -         | -      |
| <b>TBlim</b>     | -                | -         | -      |
| <b>SSBlim</b>    | -                | -         | -      |
| <b>Flim</b>      | -                | -         | -      |
| <b>ERlim</b>     | -                | -         | -      |

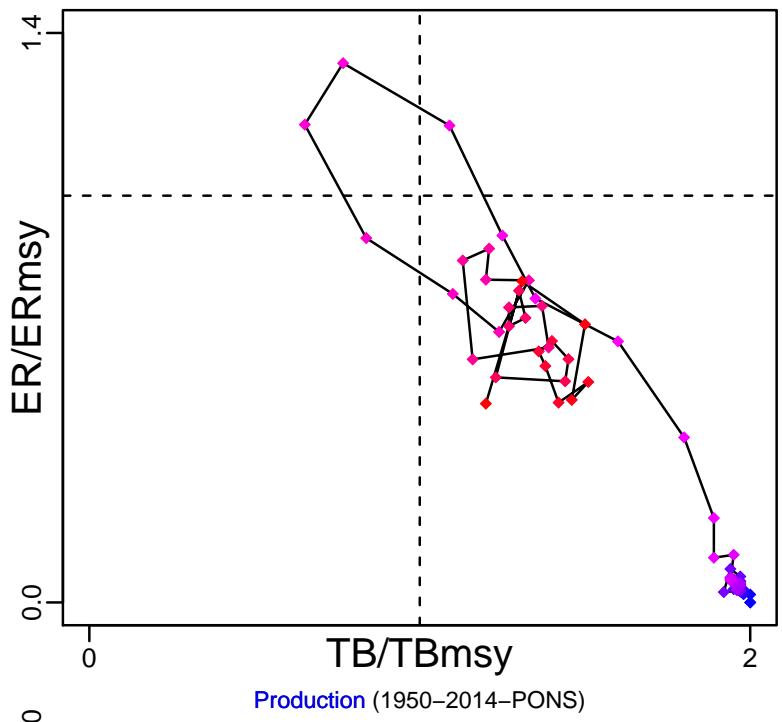
| Time Series       |                                |           |            |     |     |  |
|-------------------|--------------------------------|-----------|------------|-----|-----|--|
| Type              | ID                             | Asmt Year | Curr Value | Sex | Age |  |
| <b>TB</b>         | TB-MT                          | 2014      | 37,600     | -   | -   |  |
| <b>SSB</b>        | -                              | -         | -          | -   | -   |  |
| <b>TN</b>         | -                              | -         | -          | -   | -   |  |
| <b>R</b>          | -                              | -         | -          | -   | -   |  |
| <b>F</b>          | F-1/yr                         | 2014      | 0.74       | -   | -   |  |
| <b>ER</b>         | ER-calc-ratio                  | 2014      | 0.53       | -   | -   |  |
| <b>TC</b>         | TC-MT                          | 2014      | 18,600     |     |     |  |
| <b>TL</b>         | -                              | -         | -          |     |     |  |
| <b>TB/TBmsy</b>   | TBdivTBmsy-dimensionless       | 2014      | 1.29       |     |     |  |
| <b>SSB/SSBmsy</b> | -                              | -         | -          |     |     |  |
| <b>F/Fmsy</b>     | FdivFmsy-dimensionless         | 2014      | 0.683      |     |     |  |
| <b>ER/ERmsy</b>   | ER-calc-ratio/ERmsy-calc-ratio | 2014      | 0.489      |     |     |  |
| <b>TB/TBmgt</b>   | TB-MT/TBmgt-MT                 | 2014      | 1.289      |     |     |  |
| <b>SSB/SSBmgt</b> | -                              | -         | -          |     |     |  |
| <b>F/Fmgt</b>     | F-1/yr/Fmgt-1/yr               | 2014      | 0.685      |     |     |  |
| <b>ER/ERmgt</b>   | -                              | -         | -          |     |     |  |

Skipjack tuna Western Atlantic [SKJWATL]

Kobe MSYpref (1950–2014–PONS)

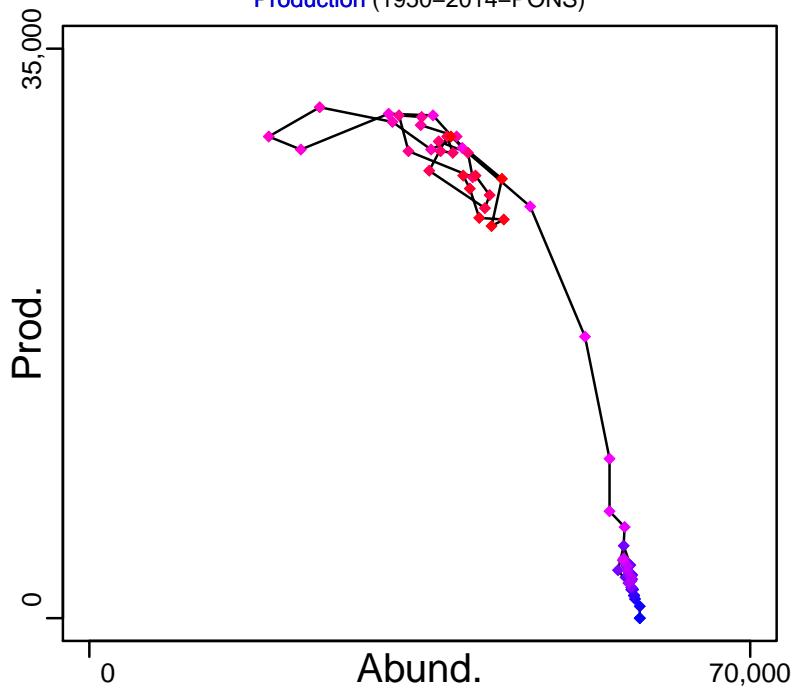
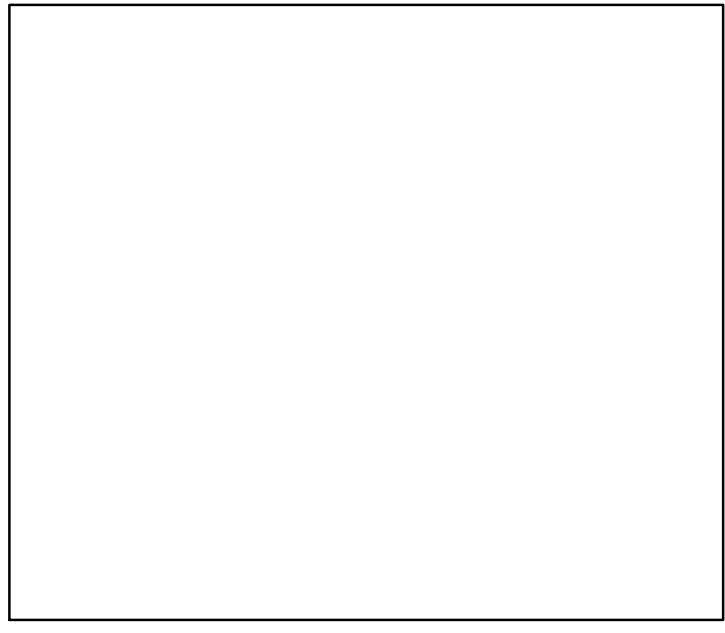


Kobe MGTPref (1950–2014–PONS)



Spawner Recruit\*

Production (1950–2014–PONS)

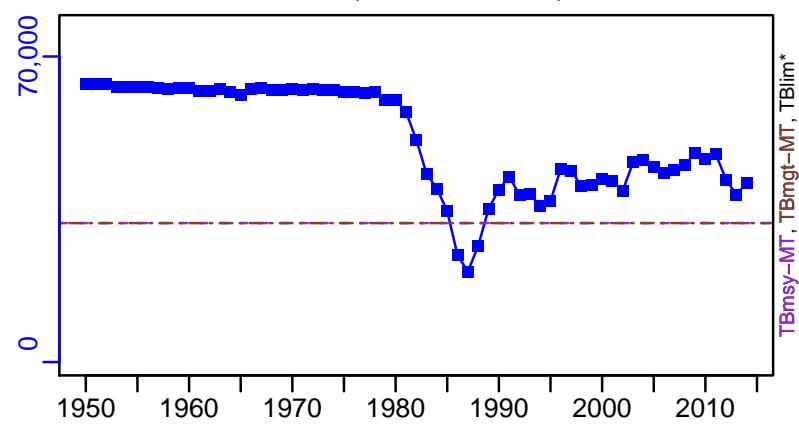


◆ Start Year   ◆ End Year   \* No Data

Skipjack tuna Western Atlantic [SKJWATL]

TB-MT (1950–2014-PONS)

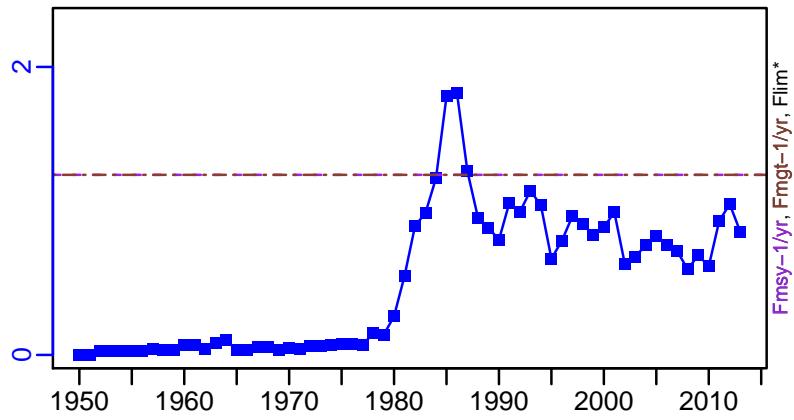
SSB\*



TN \*

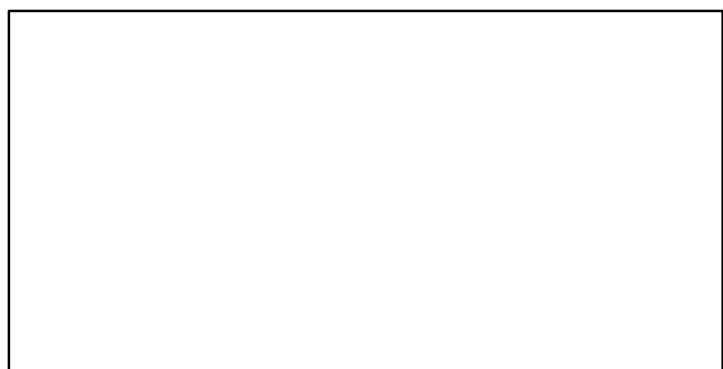
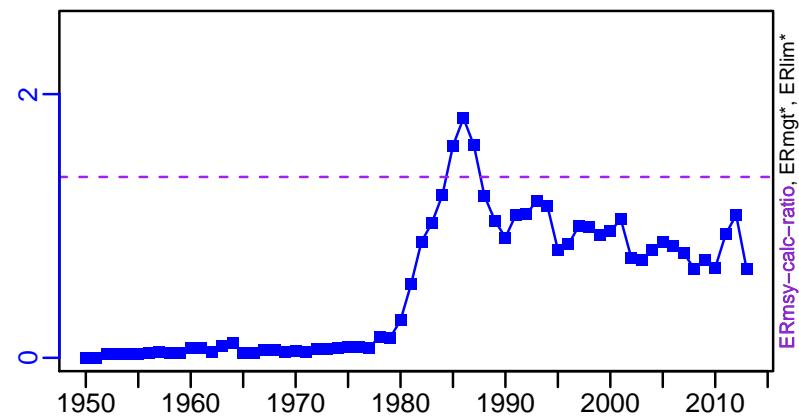


F-1/yr (1950–2014-PONS)



ER-calc-ratio (1950–2014-PONS)

Recruits\*

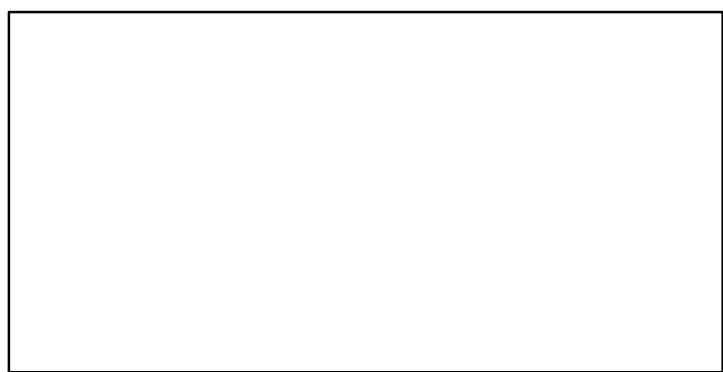
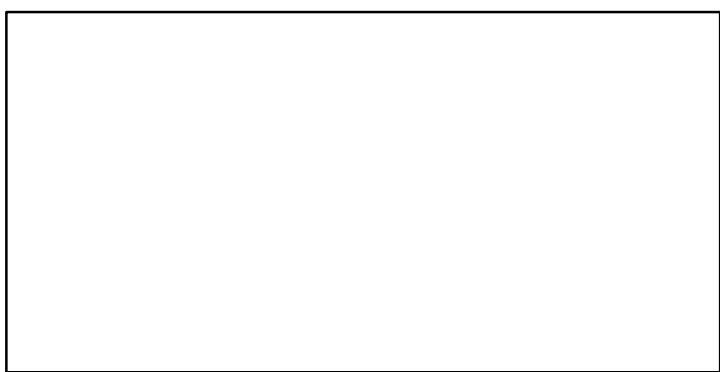
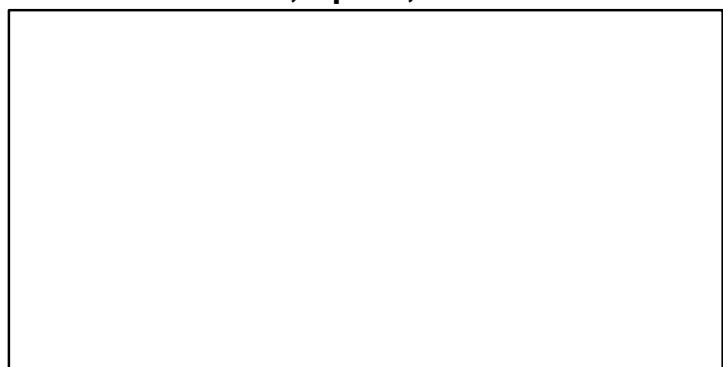
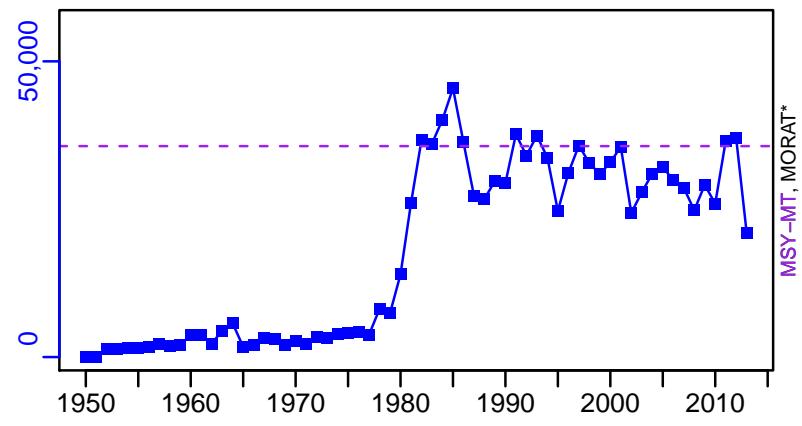


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| — MSY-based BRP      | — Lim BRP    | ■ No Data |

Skipjack tuna Western Atlantic [SKJWATL]

TC-MT, TL\*, RecC\* (1950–2014–PONS)

TAC\*, Cpair\*, Cadv\*



**EFFORT\***

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

## Swordfish North Atlantic [SWORDNATL]

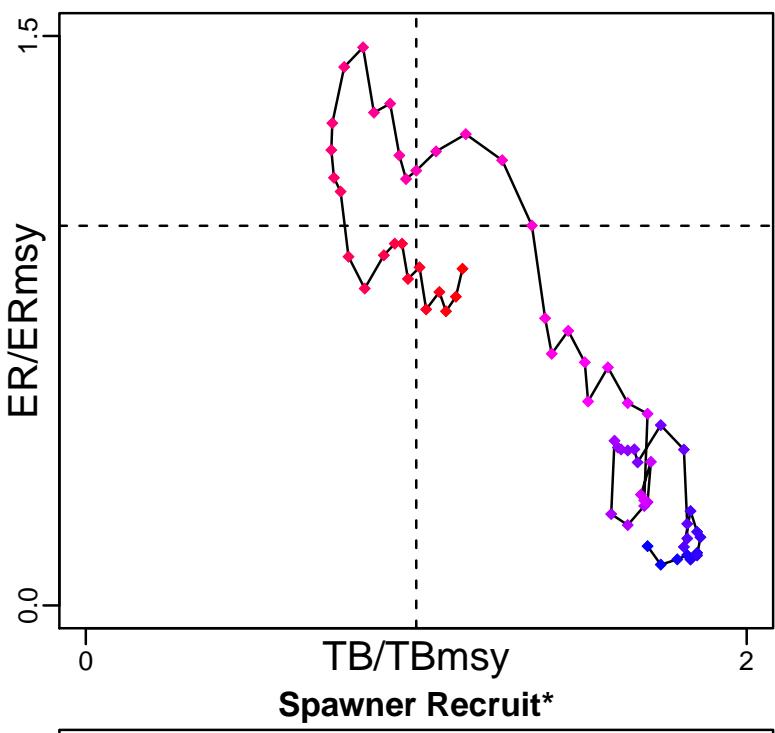
| Metadata             |   |
|----------------------|---|
| Scientific Name      | Xiphias gladius   |
| Current Assess ID    | ICCAT-SWORDNATL-1950-2015-PONS                                  |
| Area                 | Northern Atlantic   |
| Management Authority | International Commission for the Conservation of Atlantic Tunas |
| Assessor             | International Commission for the Conservation of Atlantic Tunas |
| Asmts in RAM         | 2011, 2015  |

| Reference Points |                   |           |        |
|------------------|-------------------|-----------|--------|
| Type             | ID                | Asmt Year | Value  |
| <b>TBmsy</b>     | TBmsy-MT          | 2015      | 65,060 |
| <b>SSBmsy</b>    | -                 | -         | -      |
| <b>Fmsy</b>      | Fmsy-1/yr         | 2015      | 0.21   |
| <b>ERrmsy</b>    | ERrmsy-calc-ratio | 2015      | 0.211  |
| <b>TBmgt</b>     | TBmgt-MT          | 2015      | 65,060 |
| <b>SSBmgt</b>    | -                 | -         | -      |
| <b>Fmgt</b>      | Fmgt-1/yr         | 2015      | 0.21   |
| <b>ERmgt</b>     | -                 | -         | -      |
| <b>TB0</b>       | -                 | -         | -      |
| <b>SSB0</b>      | -                 | -         | -      |
| <b>MSY</b>       | MSY-MT            | 2015      | 13,700 |
| <b>M</b>         | -                 | -         | -      |
| <b>TBlim</b>     | -                 | -         | -      |
| <b>SSBlim</b>    | -                 | -         | -      |
| <b>Flim</b>      | -                 | -         | -      |
| <b>ERlim</b>     | -                 | -         | -      |

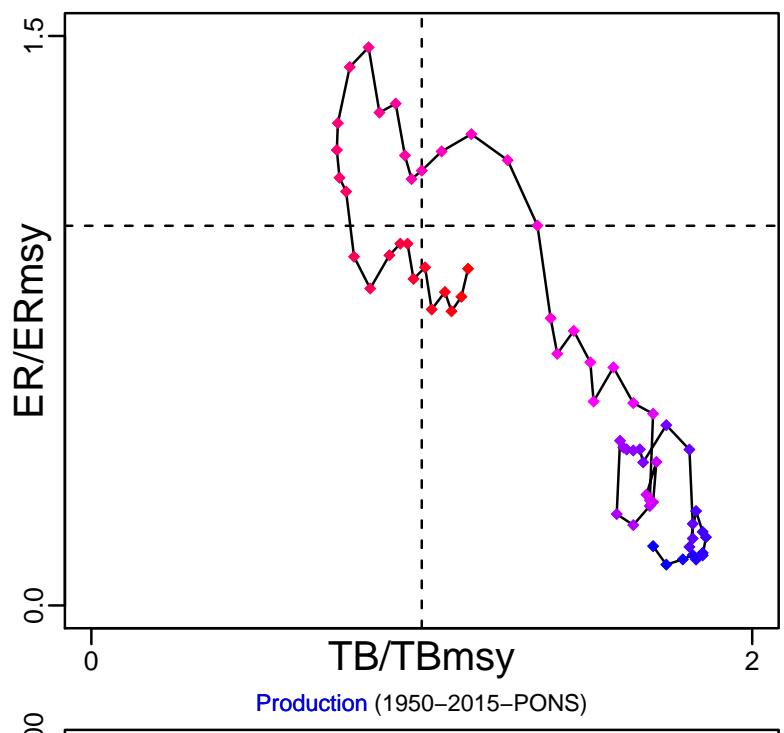
| Time Series       |                                 |           |            |     |     |  |
|-------------------|---------------------------------|-----------|------------|-----|-----|--|
| Type              | ID                              | Asmt Year | Curr Value | Sex | Age |  |
| <b>TB</b>         | TB-MT                           | 2015      | 73,900     | -   | -   |  |
| <b>SSB</b>        | -                               | -         | -          | -   | -   |  |
| <b>TN</b>         | -                               | -         | -          | -   | -   |  |
| <b>R</b>          | -                               | -         | -          | -   | -   |  |
| <b>F</b>          | F-1/yr                          | 2015      | 0.17       | -   | -   |  |
| <b>ER</b>         | ER-calc-ratio                   | 2015      | 0.187      | -   | -   |  |
| <b>TC</b>         | TC-MT                           | 2015      | 12,000     |     |     |  |
| <b>TL</b>         | -                               | -         | -          |     |     |  |
| <b>TB/TBmsy</b>   | TBdivTBmsy-dimensionless        | 2015      | 1.14       |     |     |  |
| <b>SSB/SSBmsy</b> | -                               | -         | -          |     |     |  |
| <b>F/Fmsy</b>     | FdivFmsy-dimensionless          | 2015      | 0.812      |     |     |  |
| <b>ER/ERrmsy</b>  | ER-calc-ratio/ERrmsy-calc-ratio | 2015      | 0.887      |     |     |  |
| <b>TB/TBmgt</b>   | TB-MT/TBmgt-MT                  | 2015      | 1.136      |     |     |  |
| <b>SSB/SSBmgt</b> | -                               | -         | -          |     |     |  |
| <b>F/Fmgt</b>     | F-1/yr/Fmgt-1/yr                | 2015      | 0.81       |     |     |  |
| <b>ER/ERmgt</b>   | -                               | -         | -          |     |     |  |

Swordfish North Atlantic [SWORDNATL]

Kobe MSYpref (1950–2015–PONS)

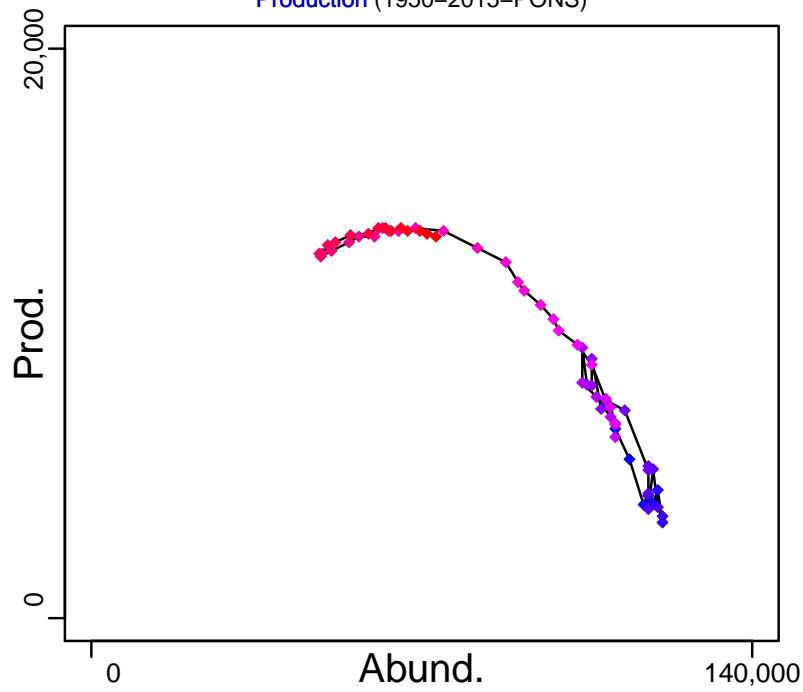
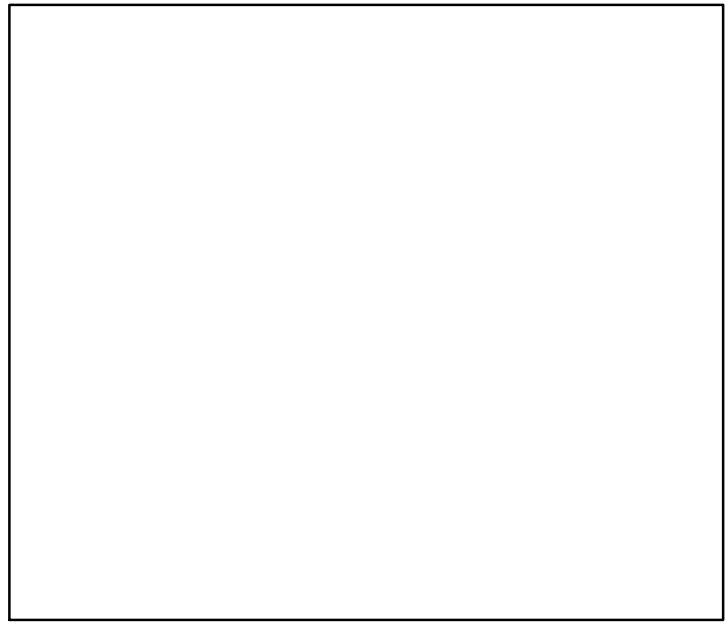


Kobe MGTPref (1950–2015–PONS)



Spawner Recruit\*

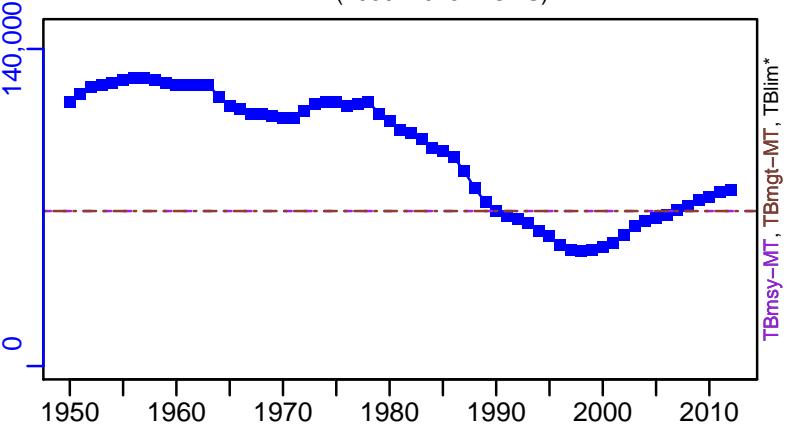
Production (1950–2015–PONS)



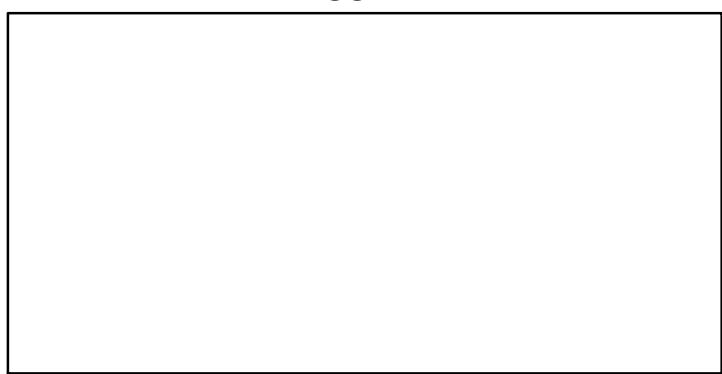
- ◆ Start Year
- ◆ End Year
- \* No Data

### Swordfish North Atlantic [SWORDNATL]

TB-MT (1950–2015-PONS)

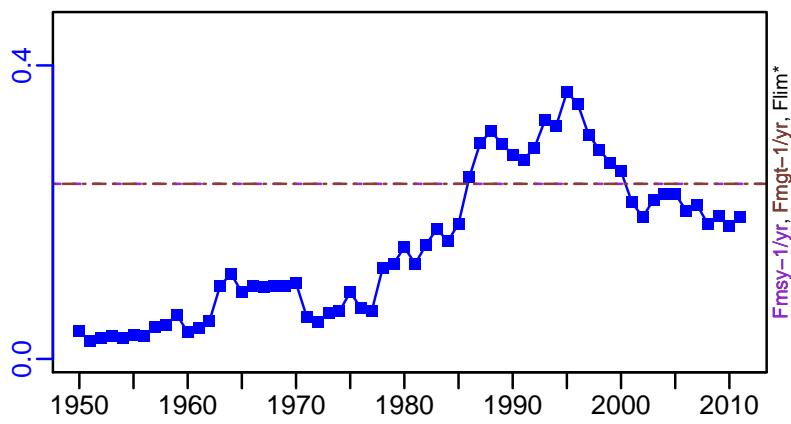


SSB\*



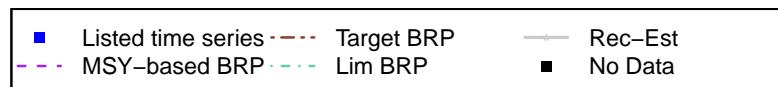
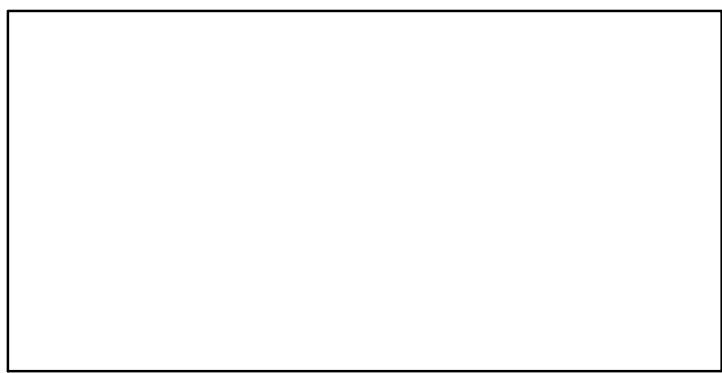
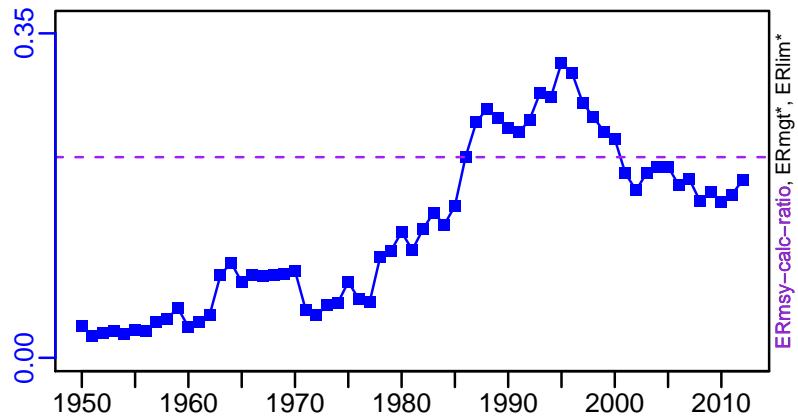
TN \*

F-1/yr (1950–2015-PONS)



ER-calc-ratio (1950–2015-PONS)

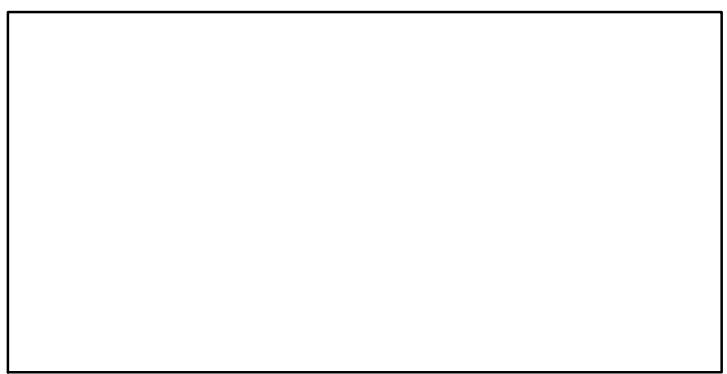
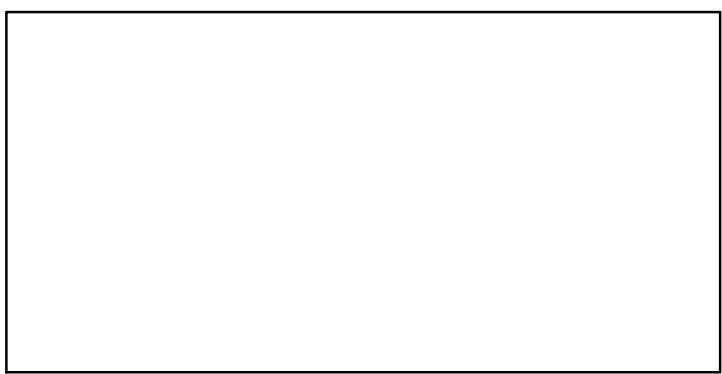
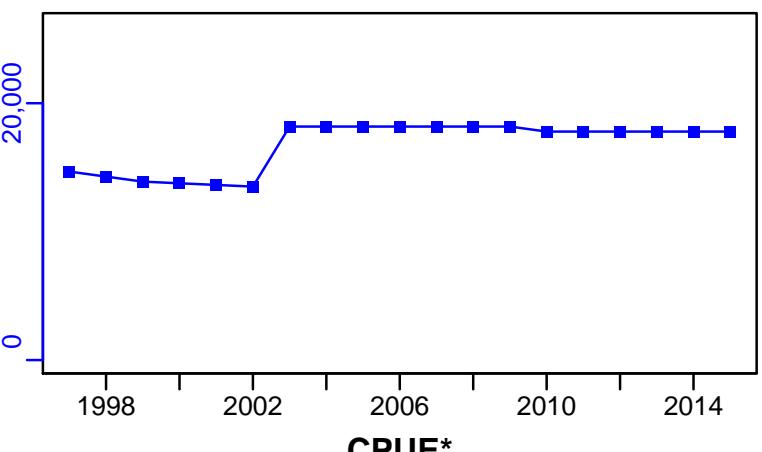
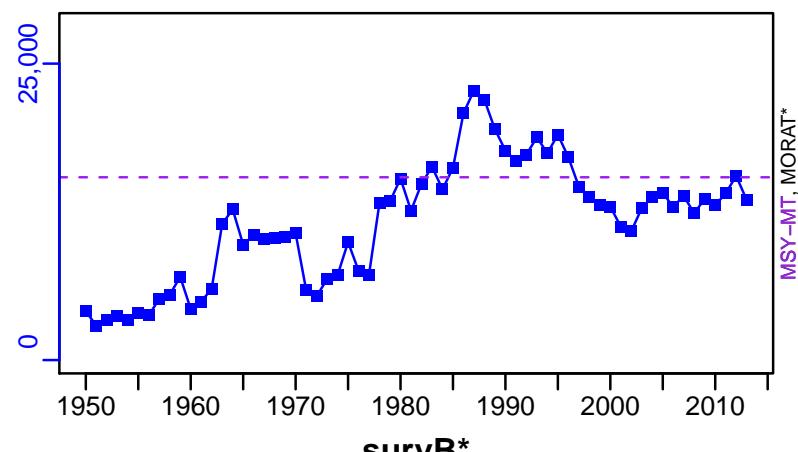
Recruits\*



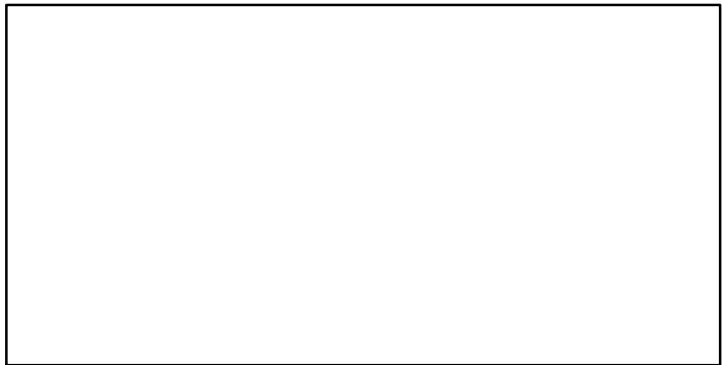
### Swordfish North Atlantic [SWORDNATL]

TC-MT, TL\*, RecC\* (1950–2015–PONS)

TAC-MT, Cpair\*, Cadv\* (1950–2015–PONS)



**EFFORT\***



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

## Swordfish South Atlantic [SWORDSATL]

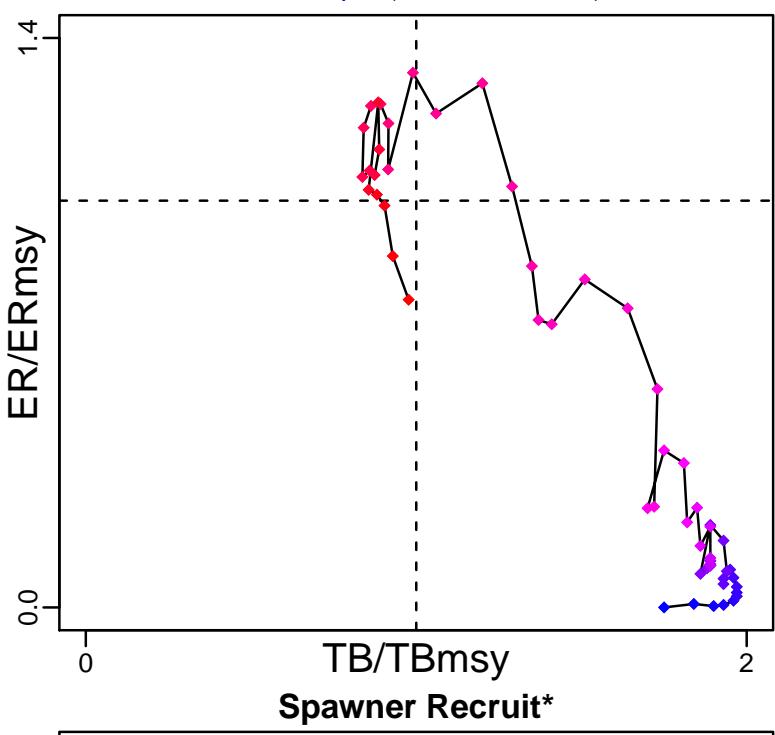
| Metadata             |   |
|----------------------|---|
| Scientific Name      | Xiphias gladius   |
| Current Assess ID    | ICCAT-SWORDSATL-1950-2015-PONS                                  |
| Area                 | South Atlantic  |
| Management Authority | International Commission for the Conservation of Atlantic Tunas |
| Assessor             | International Commission for the Conservation of Atlantic Tunas |
| Asmts in RAM         | 2015  |

| Reference Points |                   |           |        |
|------------------|-------------------|-----------|--------|
| Type             | ID                | Asmt Year | Value  |
| <b>TBmsy</b>     | TBmsy-MT          | 2015      | 58,360 |
| <b>SSBmsy</b>    | -                 | -         | -      |
| <b>Fmsy</b>      | Fmsy-1/yr         | 2015      | 0.24   |
| <b>ERrmsy</b>    | ERrmsy-calc-ratio | 2015      | 0.243  |
| <b>TBmgt</b>     | TBmgt-MT          | 2015      | 58,360 |
| <b>SSBmgt</b>    | -                 | -         | -      |
| <b>Fmgt</b>      | Fmgt-1/yr         | 2015      | 0.24   |
| <b>ERmgt</b>     | -                 | -         | -      |
| <b>TB0</b>       | -                 | -         | -      |
| <b>SSB0</b>      | -                 | -         | -      |
| <b>MSY</b>       | MSY-MT            | 2015      | 14,210 |
| <b>M</b>         | -                 | -         | -      |
| <b>TBlim</b>     | -                 | -         | -      |
| <b>SSBlim</b>    | -                 | -         | -      |
| <b>Flim</b>      | -                 | -         | -      |
| <b>ERlim</b>     | -                 | -         | -      |

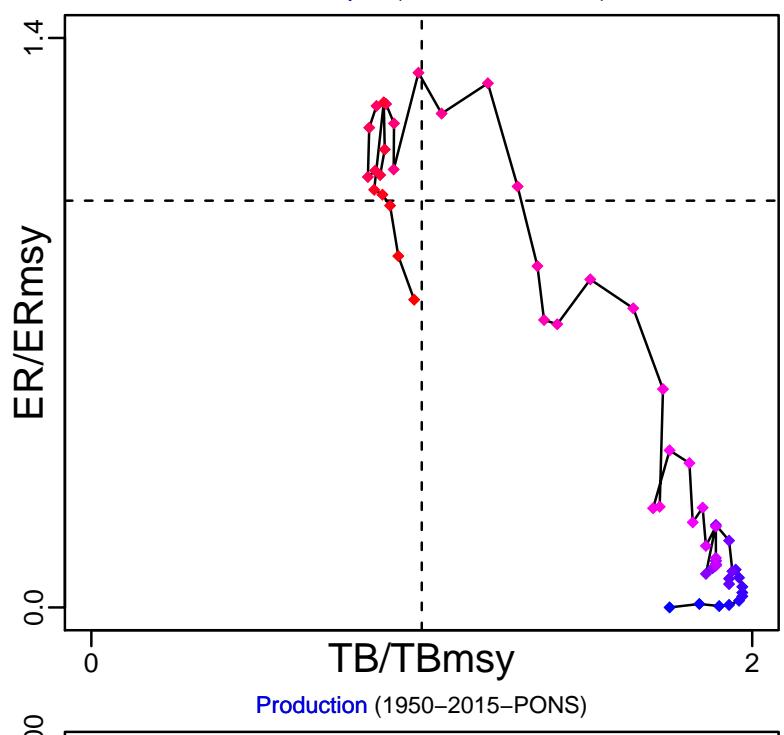
| Time Series       |                                 |           |            |     |     |  |
|-------------------|---------------------------------|-----------|------------|-----|-----|--|
| Type              | ID                              | Asmt Year | Curr Value | Sex | Age |  |
| <b>TB</b>         | TB-MT                           | 2015      | 57,000     | -   | -   |  |
| <b>SSB</b>        | -                               | -         | -          | -   | -   |  |
| <b>TN</b>         | -                               | -         | -          | -   | -   |  |
| <b>R</b>          | -                               | -         | -          | -   | -   |  |
| <b>F</b>          | F-1/yr                          | 2015      | 0.204      | -   | -   |  |
| <b>ER</b>         | ER-calc-ratio                   | 2015      | 0.184      | -   | -   |  |
| <b>TC</b>         | TC-MT                           | 2015      | 7820       |     |     |  |
| <b>TL</b>         | -                               | -         | -          |     |     |  |
| <b>TB/TBmsy</b>   | TBdivTBmsy-dimensionless        | 2015      | 0.977      |     |     |  |
| <b>SSB/SSBmsy</b> | -                               | -         | -          |     |     |  |
| <b>F/Fmsy</b>     | FdivFmsy-dimensionless          | 2015      | 0.839      |     |     |  |
| <b>ER/ERrmsy</b>  | ER-calc-ratio/ERrmsy-calc-ratio | 2015      | 0.757      |     |     |  |
| <b>TB/TBmgt</b>   | TB-MT/TBmgt-MT                  | 2015      | 0.977      |     |     |  |
| <b>SSB/SSBmgt</b> | -                               | -         | -          |     |     |  |
| <b>F/Fmgt</b>     | F-1/yr/Fmgt-1/yr                | 2015      | 0.85       |     |     |  |
| <b>ER/ERmgt</b>   | -                               | -         | -          |     |     |  |

Swordfish South Atlantic [SWORDSATL]

Kobe MSYpref (1950–2015–PONS)

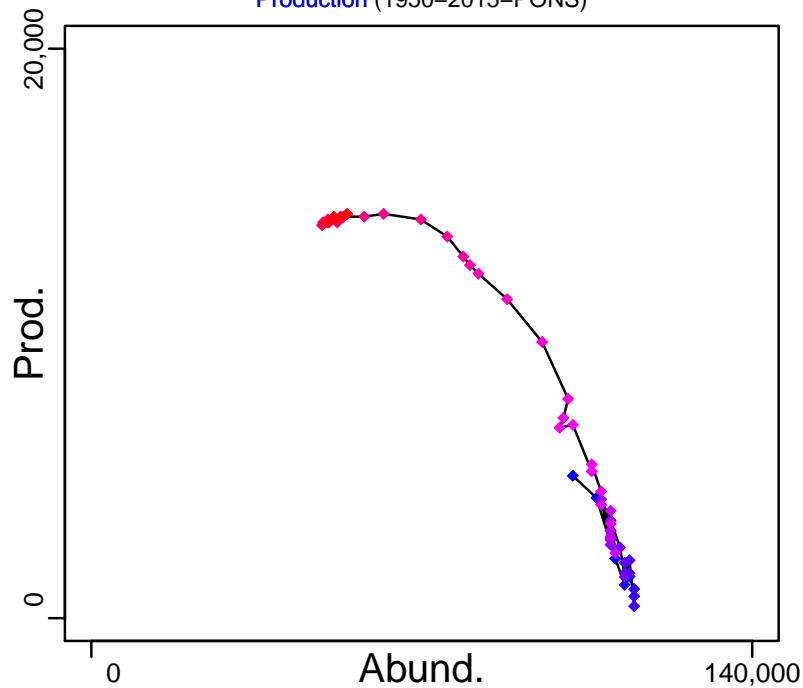
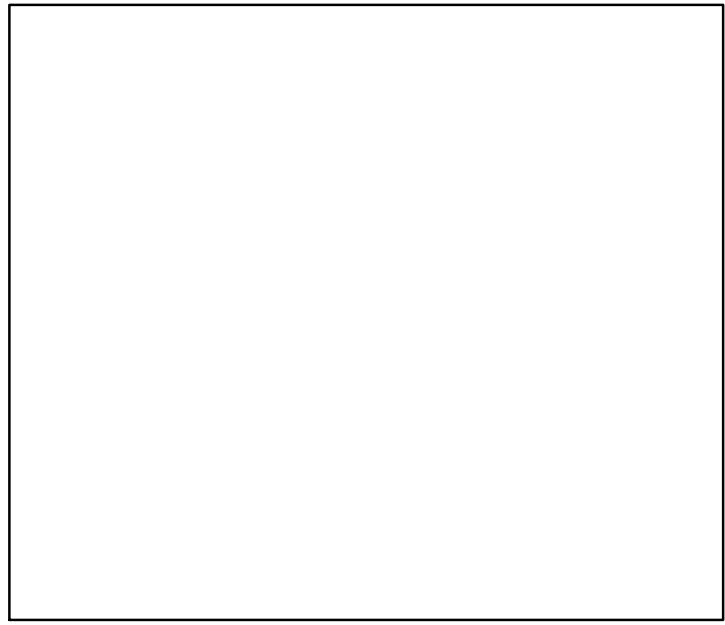


Kobe MGTPref (1950–2015–PONS)



**Spawner Recruit\***

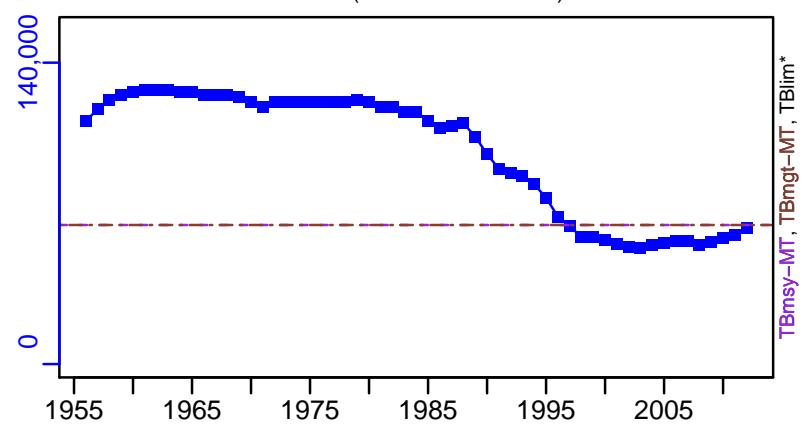
**Production (1950–2015–PONS)**



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

Swordfish South Atlantic [SWORDSATL]

TB-MT (1950–2015-PONS)



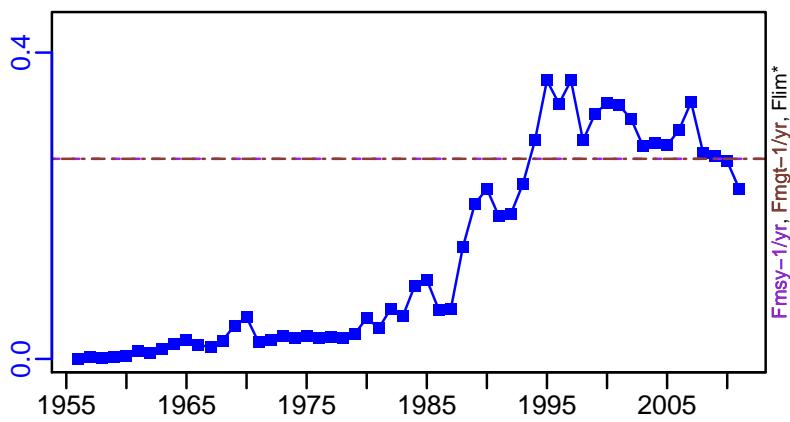
SSB\*



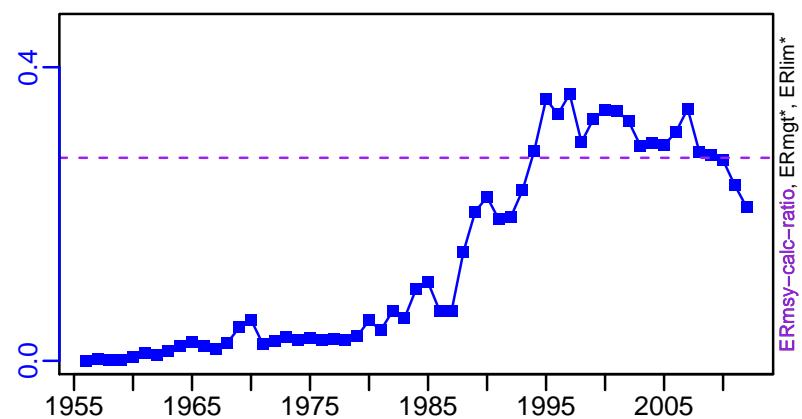
TN \*



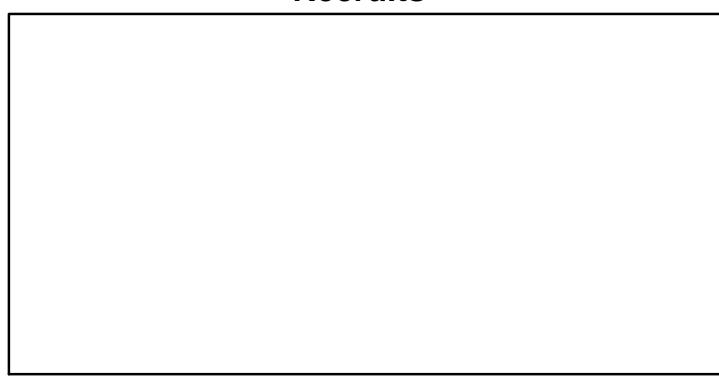
F-1/yr (1950–2015-PONS)



ER-calc-ratio (1950–2015-PONS)



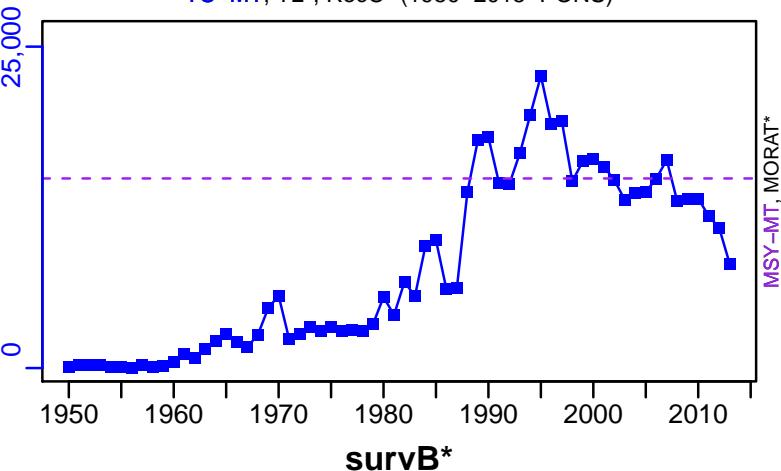
Recruits\*



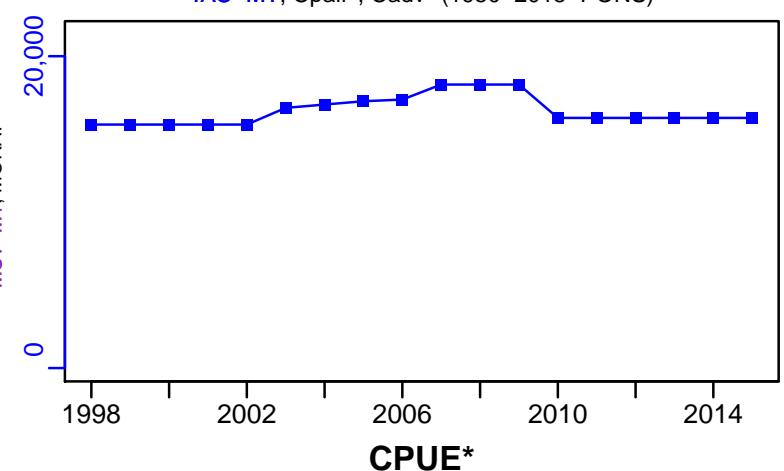
- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| — MSY-based BRP      | ··· Lim BRP  | ■ No Data |

### Swordfish South Atlantic [SWORDSATL]

TC-MT, TL\*, RecC\* (1950–2015–PONS)



TAC-MT, Cpair\*, Cadv\* (1950–2015–PONS)



EFFORT\*

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

## White marlin Atlantic [WMARLINATL]

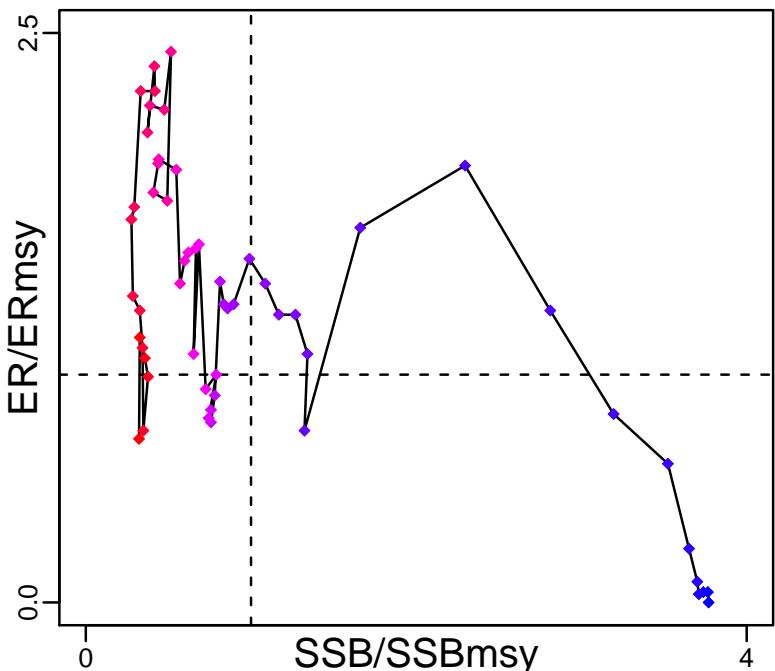
| <b>Metadata</b>             |   |
|-----------------------------|---|
| <b>Scientific Name</b>      | Tetrapturus albidus   |
| <b>Current Assess ID</b>    | ICCAT-WMARLINATL-1956-2011-CHING                                |
| <b>Area</b>                 | Atlantic Ocean  |
| <b>Management Authority</b> | International Commission for the Conservation of Atlantic Tunas |
| <b>Assessor</b>             | International Commission for the Conservation of Atlantic Tunas |
| <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>            | TBmsy-extr-MT | 2011             | 19,122       |
| <b>SSBmsy</b>           | SSBmsy-MT     | 2011             | 2191         |
| <b>Fmsy</b>             | Fmsy-1/yr     | 2011             | 0.094        |
| <b>ERmsy</b>            | ERmsy-ratio   | 2011             | 0.11         |
| <b>TBmgt</b>            | -             | -                | -            |
| <b>SSBmgt</b>           | -             | -                | -            |
| <b>Fmgt</b>             | -             | -                | -            |
| <b>ERmgt</b>            | -             | -                | -            |
| <b>TB0</b>              | TB0-MT        | 2011             | 36,234       |
| <b>SSB0</b>             | -             | -                | -            |
| <b>MSY</b>              | MSY-MT        | 2011             | 1239         |
| <b>M</b>                | -             | -                | -            |
| <b>TBlim</b>            | -             | -                | -            |
| <b>SSBlim</b>           | -             | -                | -            |
| <b>Flim</b>             | -             | -                | -            |
| <b>ERlim</b>            | -             | -                | -            |

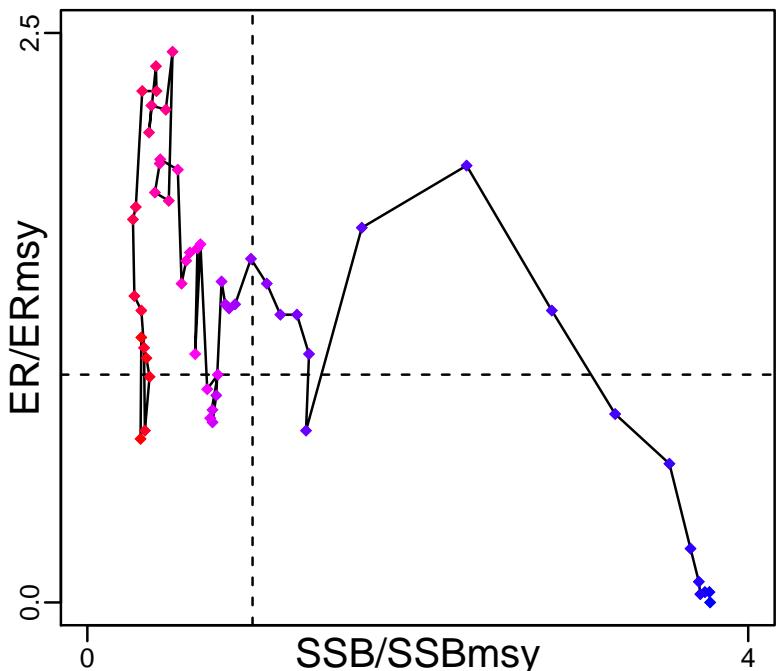
| <b>Time Series</b> |                          |                  |                   |            |            |  |
|--------------------|--------------------------|------------------|-------------------|------------|------------|--|
| <b>Type</b>        | <b>ID</b>                | <b>Asmt Year</b> | <b>Curr Value</b> | <b>Sex</b> | <b>Age</b> |  |
| <b>TB</b>          | TB-MT                    | 2011             | 8310              | -          | -          |  |
| <b>SSB</b>         | SSB-MT                   | 2011             | 706               | -          | -          |  |
| <b>TN</b>          | -                        | -                | -                 | -          | -          |  |
| <b>R</b>           | R-E00                    | 2011             | 85,200            | -          | -          |  |
| <b>F</b>           | -                        | -                | -                 | -          | -          |  |
| <b>ER</b>          | ER-ratio                 | 2011             | 0.079             | -          | -          |  |
| <b>TC</b>          | TC-MT                    | 2011             | 434               |            |            |  |
| <b>TL</b>          | -                        | -                | -                 |            |            |  |
| <b>TB/TBmsy</b>    | TBdivTBmsy-dimensionless | 2011             | 0.4               |            |            |  |
| <b>SSB/SSBmsy</b>  | SSB-MT/SSBmsy-MT         | 2011             | 0.322             |            |            |  |
| <b>F/Fmsy</b>      | FdivFmsy-dimensionless   | 2011             | 0.84              |            |            |  |
| <b>ER/ERmsy</b>    | ER-ratio/ERmsy-ratio     | 2011             | 0.718             |            |            |  |
| <b>TB/TBmgt</b>    | -                        | -                | -                 |            |            |  |
| <b>SSB/SSBmgt</b>  | -                        | -                | -                 |            |            |  |
| <b>F/Fmgt</b>      | -                        | -                | -                 |            |            |  |
| <b>ER/ERmgt</b>    | -                        | -                | -                 |            |            |  |

### White marlin Atlantic [WMARLINATL]

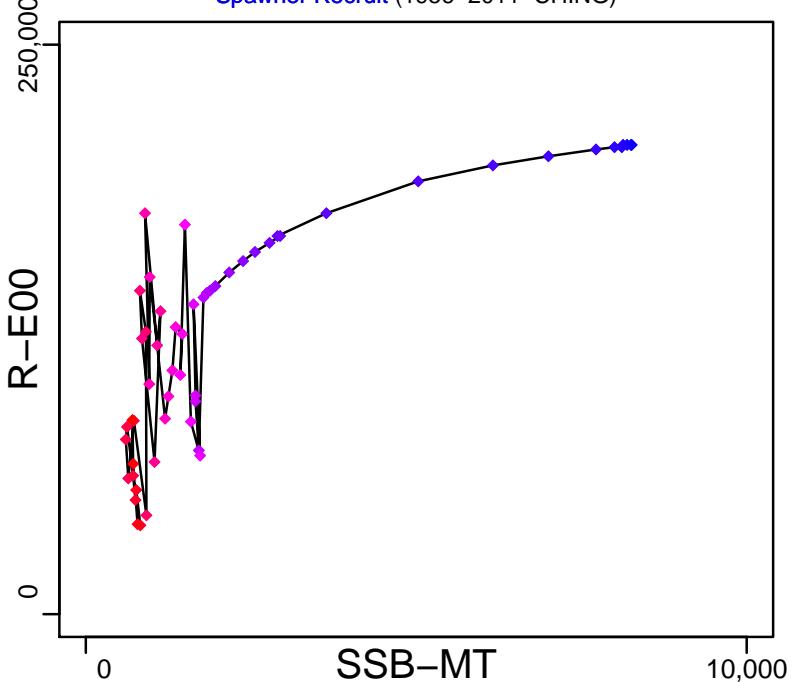
Kobe MSYpref (1956–2011–CHING)



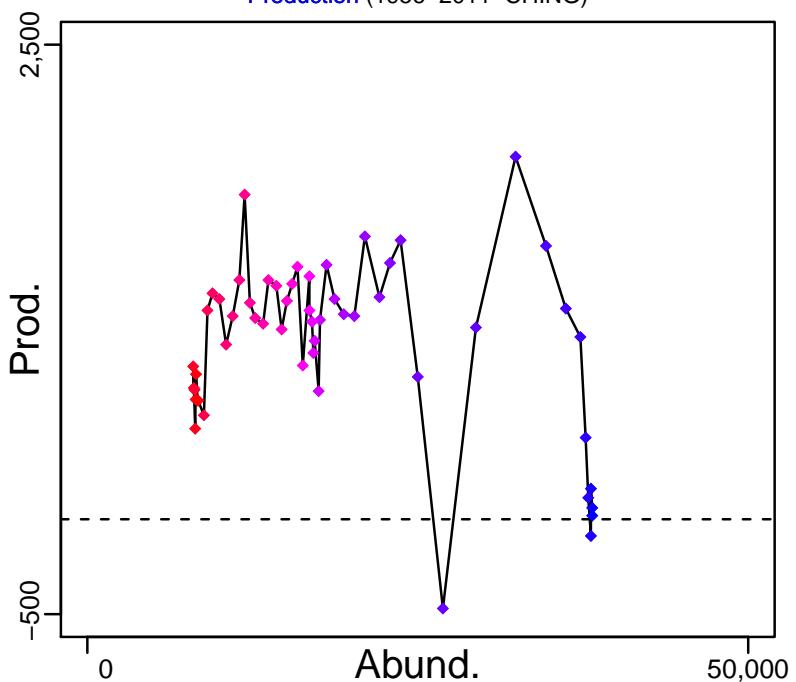
Kobe MGTPref (1956–2011–CHING)



Spawner Recruit (1956–2011–CHING)



Production (1956–2011–CHING)

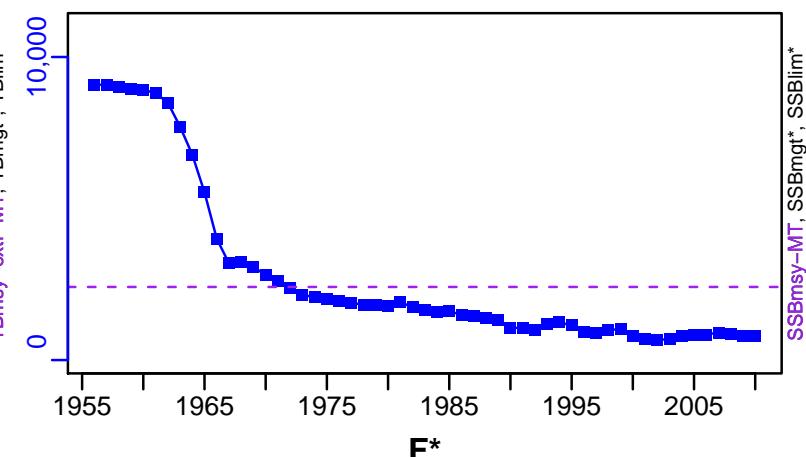
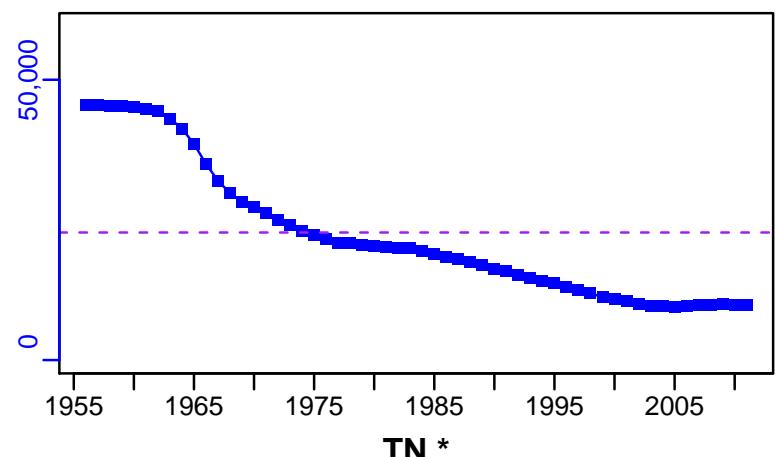


◆ Start Year   ◆ End Year   \* No Data

### White marlin Atlantic [WMARLINATL]

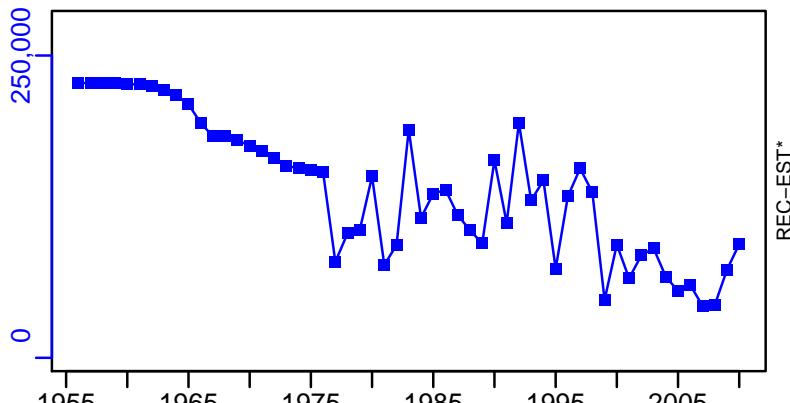
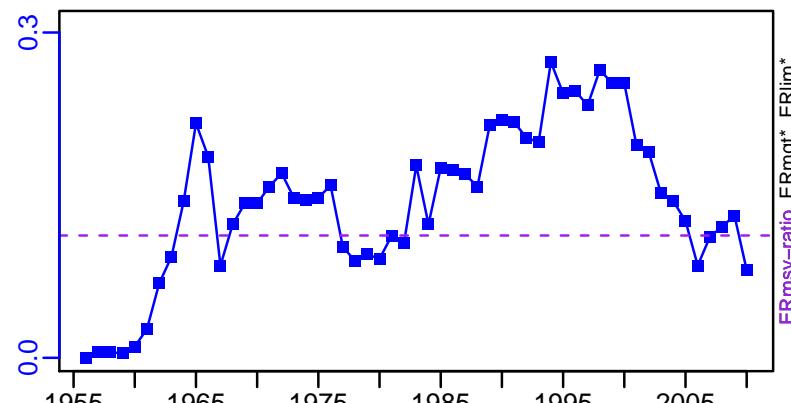
TB-MT (1956–2011–CHING)

SSB-MT (1956–2011–CHING)



ER-ratio (1956–2011–CHING)

R-E00 (1956–2011–CHING)

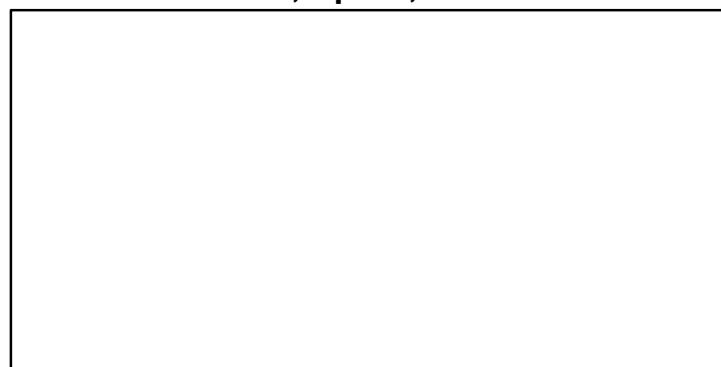
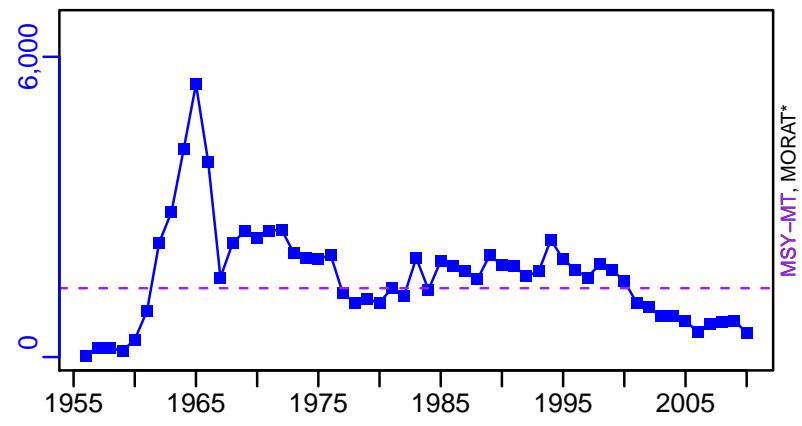


|                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| — MSY-based BRP      | ··· Lim BRP  | ■ No Data |

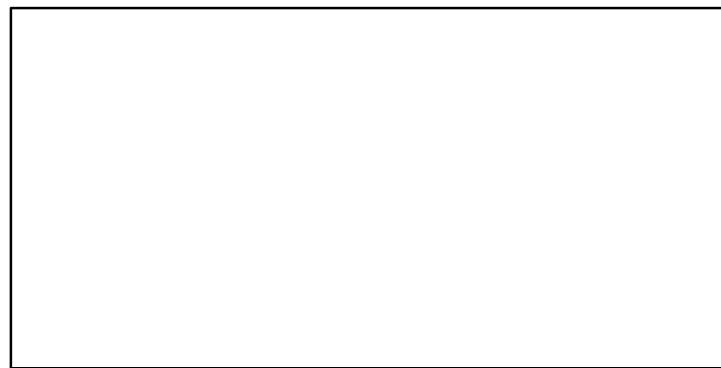
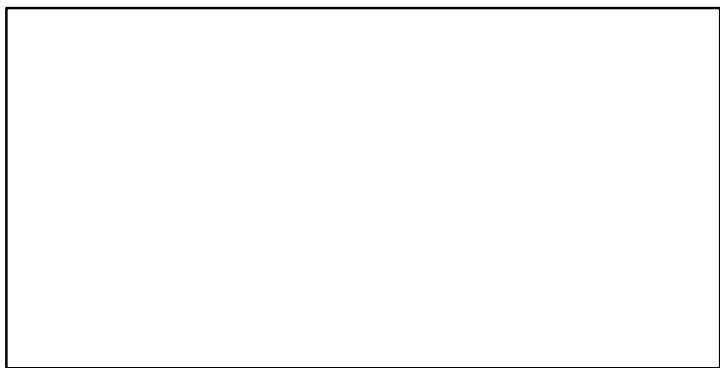
**White marlin Atlantic [WMARLINATL]**

TC-MT, TL\*, RecC\* (1956–2011–CHING)

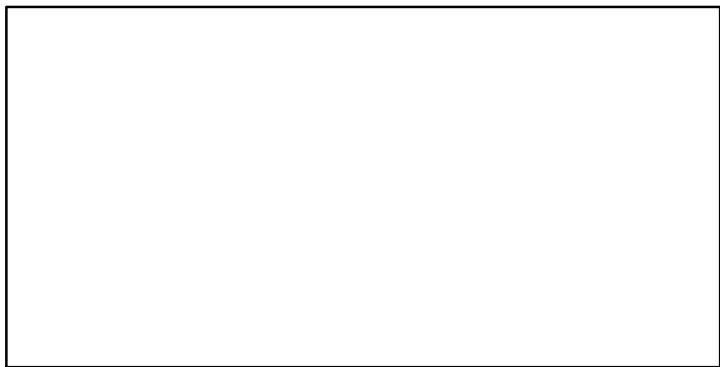
TAC\*, Cpair\*, Cadv\*



**CPUE\***



**EFFORT\***



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

## Yellowfin tuna Atlantic [YFINATL]

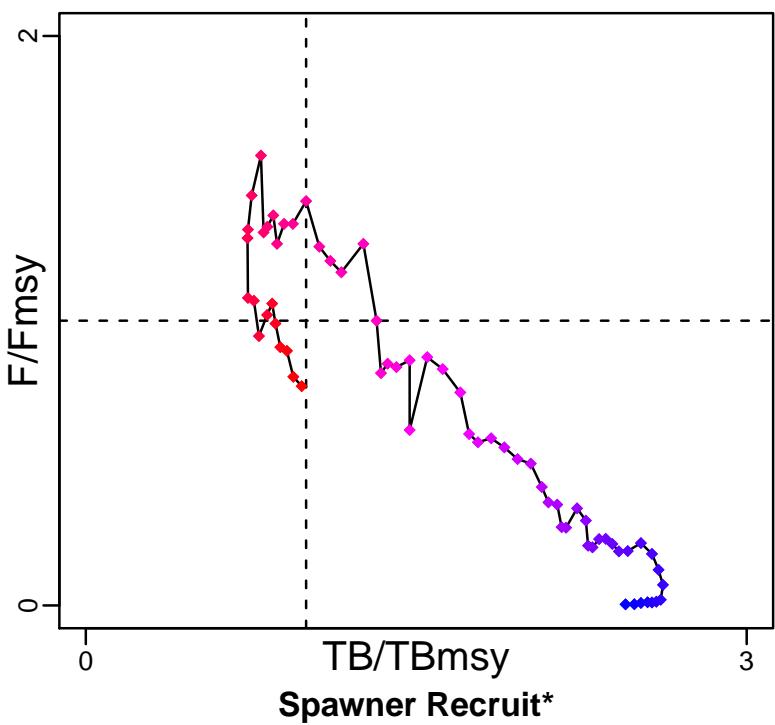
| <b>Metadata</b>             |   |
|-----------------------------|---|
| <b>Scientific Name</b>      | Thunnus albacares   |
| <b>Current Assess ID</b>    | ICCAT-YFINATL-1950-2016-PONS                                    |
| <b>Area</b>                 | Atlantic Ocean  |
| <b>Management Authority</b> | International Commission for the Conservation of Atlantic Tunas |
| <b>Assessor</b>             | International Commission for the Conservation of Atlantic Tunas |
| <b>Asmts in RAM</b>         | 2011, 2016  |

| <b>Reference Points</b> |                  |                  |              |
|-------------------------|------------------|------------------|--------------|
| <b>Type</b>             | <b>ID</b>        | <b>Asmt Year</b> | <b>Value</b> |
| <b>TBmsy</b>            | TBmsy-extr-MT    | 2016             | 739,814      |
| <b>SSBmsy</b>           | -                | -                | -            |
| <b>Fmsy</b>             | Fmsy-extr-1/yr   | 2016             | 0.17         |
| <b>ERmsy</b>            | ERmsy-calc-ratio | 2011             | 0.257        |
| <b>TBmgt</b>            | -                | -                | -            |
| <b>SSBmgt</b>           | -                | -                | -            |
| <b>Fmgt</b>             | -                | -                | -            |
| <b>ERmgt</b>            | -                | -                | -            |
| <b>TB0</b>              | -                | -                | -            |
| <b>SSB0</b>             | -                | -                | -            |
| <b>MSY</b>              | MSY-MT           | 2011             | 144,600      |
| <b>M</b>                | -                | -                | -            |
| <b>TBlim</b>            | -                | -                | -            |
| <b>SSBlim</b>           | -                | -                | -            |
| <b>Flim</b>             | -                | -                | -            |
| <b>ERlim</b>            | -                | -                | -            |

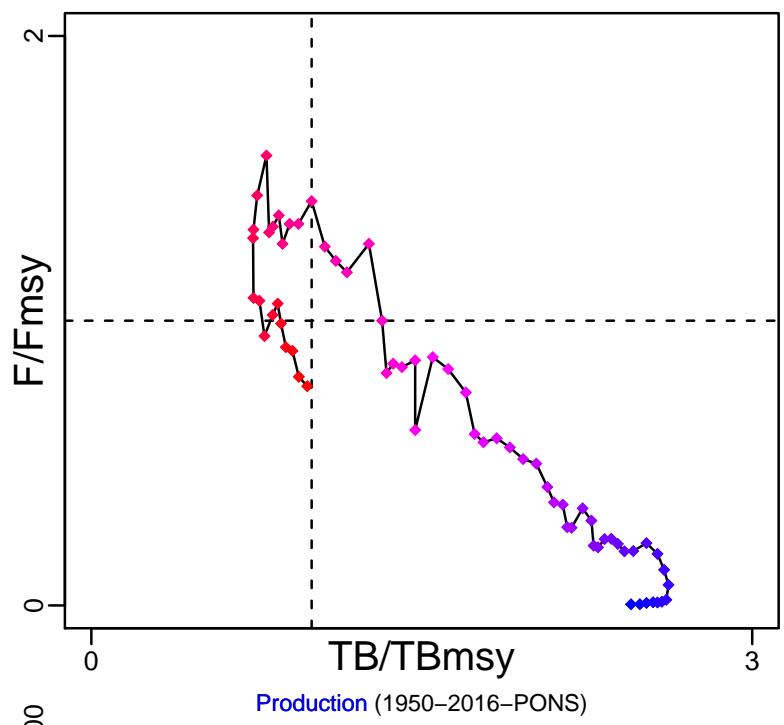
| <b>Time Series</b> |                           |                  |                   |            |            |  |
|--------------------|---------------------------|------------------|-------------------|------------|------------|--|
| <b>Type</b>        | <b>ID</b>                 | <b>Asmt Year</b> | <b>Curr Value</b> | <b>Sex</b> | <b>Age</b> |  |
| <b>TB</b>          | TB-MT                     | 2016             | 725,000           | -          | -          |  |
| <b>SSB</b>         | -                         | -                | -                 | -          | -          |  |
| <b>TN</b>          | -                         | -                | -                 | -          | -          |  |
| <b>R</b>           | -                         | -                | -                 | -          | -          |  |
| <b>F</b>           | F-1/yr                    | 2016             | 0.131             | -          | -          |  |
| <b>ER</b>          | ER-calc-ratio             | 2016             | 0.134             | -          | -          |  |
| <b>TC</b>          | TC-MT                     | 2011             | 108,000           |            |            |  |
| <b>TL</b>          | TL-MT                     | 2016             | 128,000           |            |            |  |
| <b>TB/TBmsy</b>    | TBdivTBmsy-dimensionless  | 2016             | 0.98              |            |            |  |
| <b>SSB/SSBmsy</b>  | -                         | -                | -                 |            |            |  |
| <b>F/Fmsy</b>      | FdivFmsy-dimensionless    | 2016             | 0.77              |            |            |  |
| <b>ER/ERmsy</b>    | ER-ratio/ERmsy-calc-ratio | 2011             | 1.074             |            |            |  |
| <b>TB/TBmgt</b>    | -                         | -                | -                 |            |            |  |
| <b>SSB/SSBmgt</b>  | -                         | -                | -                 |            |            |  |
| <b>F/Fmgt</b>      | -                         | -                | -                 |            |            |  |
| <b>ER/ERmgt</b>    | -                         | -                | -                 |            |            |  |

**Yellowfin tuna Atlantic [YFINATL]**

Kobe MSYpref (1950–2016–PONS)

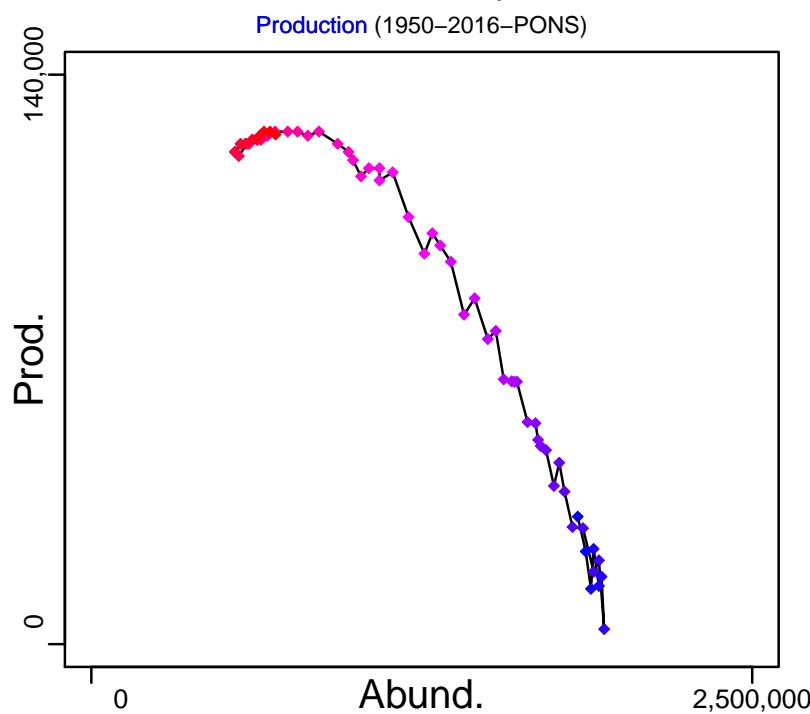
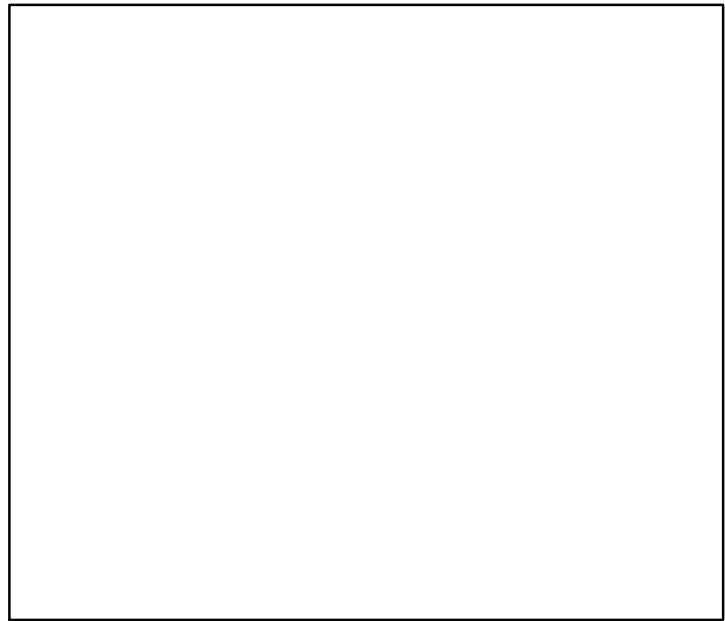


Kobe MGTPref (1950–2016–PONS)



**Spawner Recruit\***

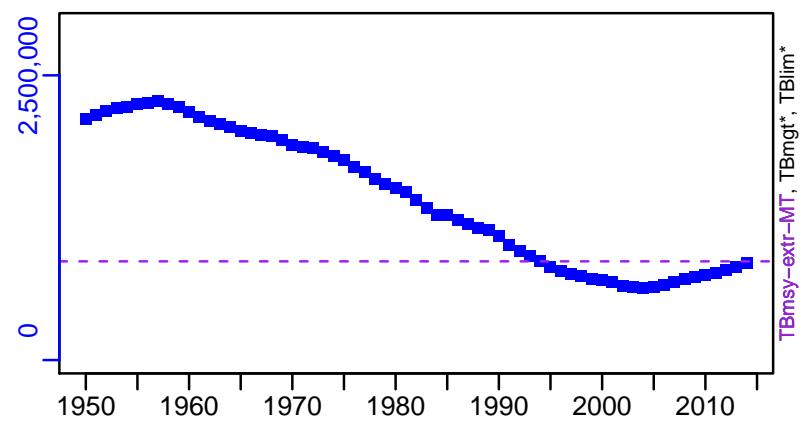
**Production (1950–2016–PONS)**



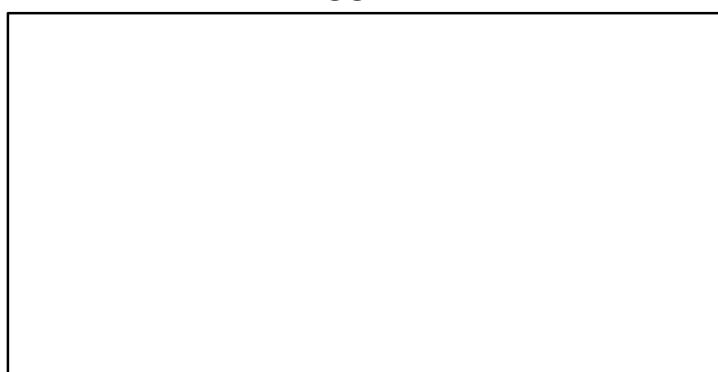
◆ Start Year ◆ End Year \* No Data

### Yellowfin tuna Atlantic [YFINATL]

TB-MT (1950–2016–PONS)

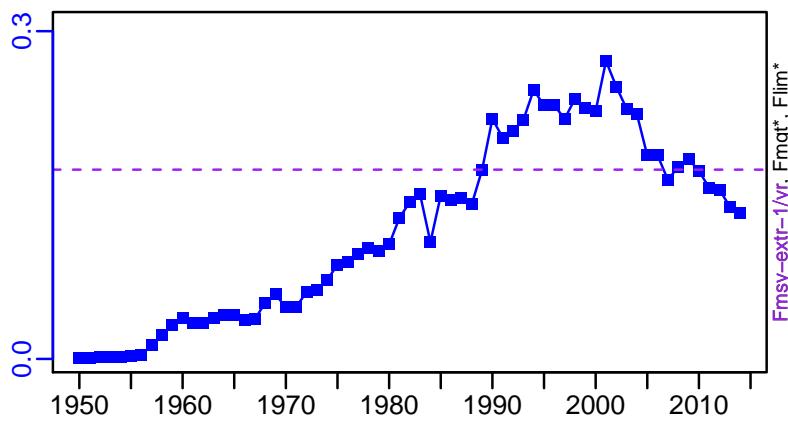
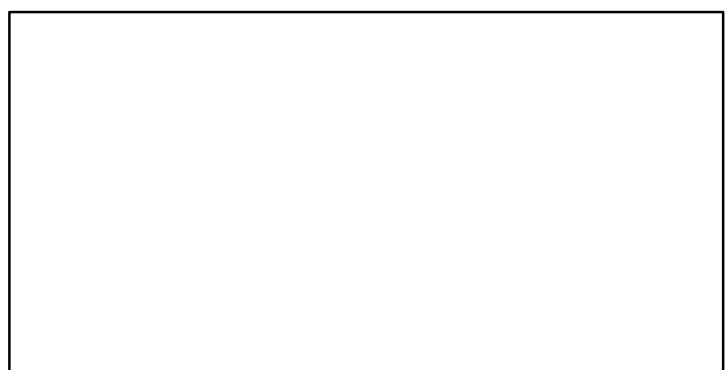


SSB\*

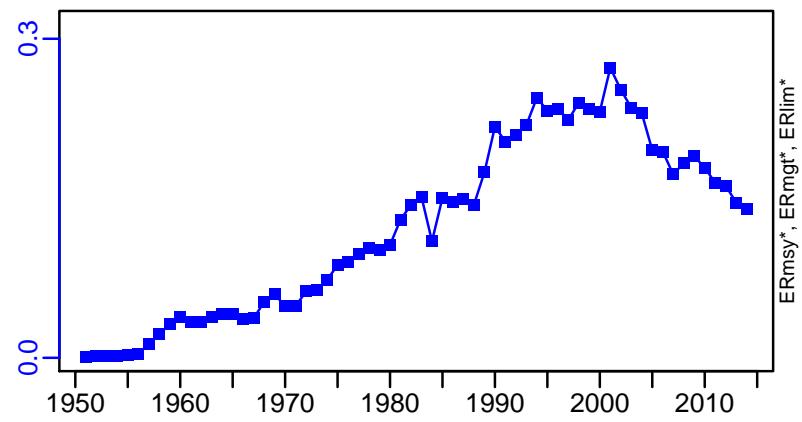


TN \*

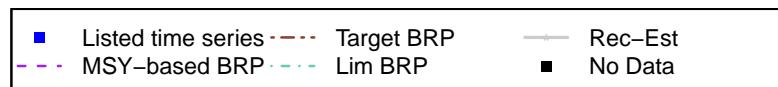
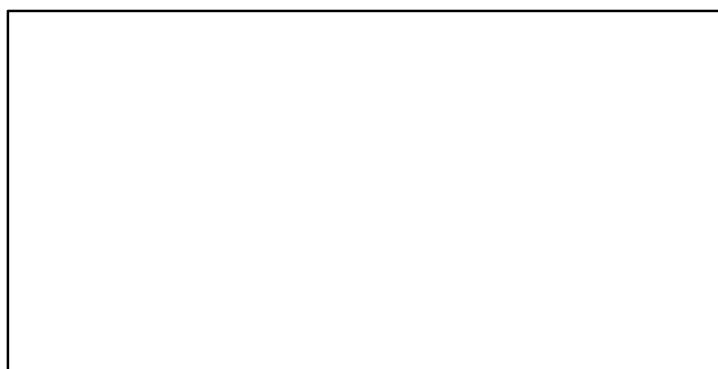
F-1/yr (1950–2016–PONS)



ER-calc-ratio (1950–2016–PONS)



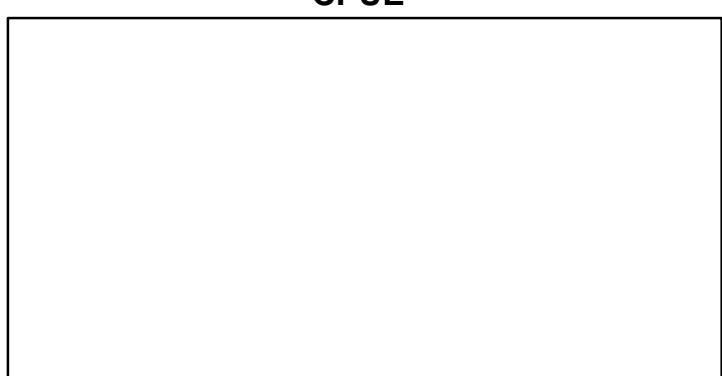
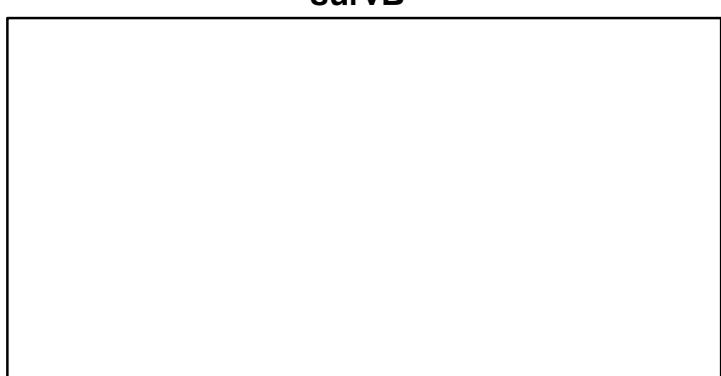
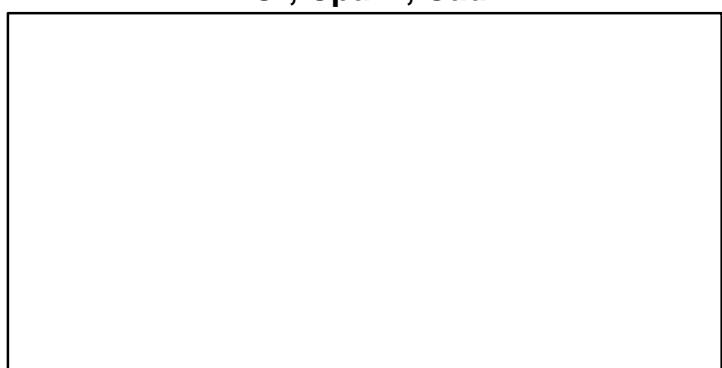
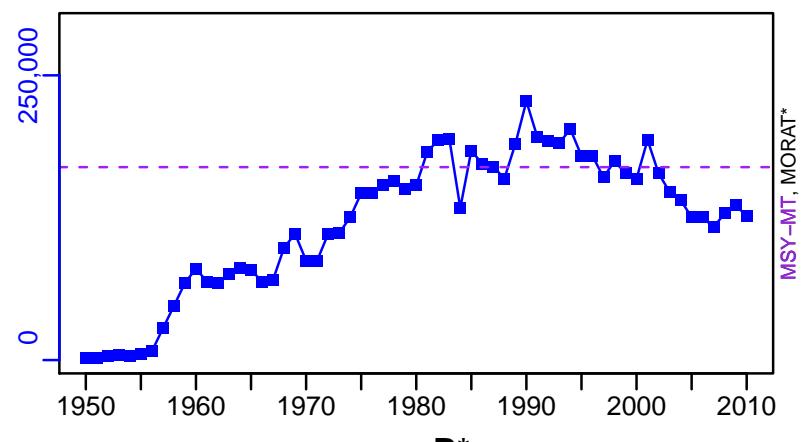
Recruits\*



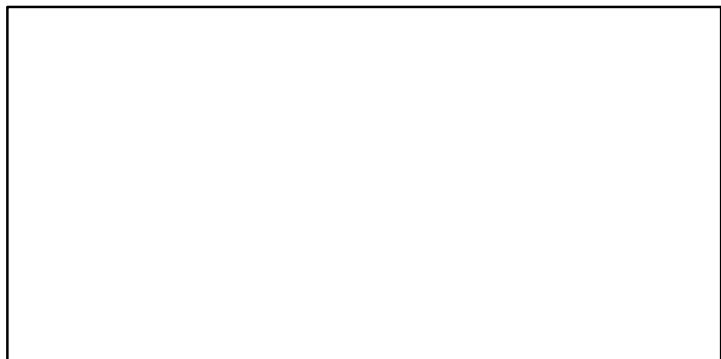
**Yellowfin tuna Atlantic [YFINATL]**

TC-MT, TL\*, RecC\* (1950–2011-CHING)

TAC\*, Cpair\*, Cadv\*



**EFFORT\***



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