

Figure 1:

## Yellowfin tuna in Amsterdam-St Paul

Species: *Thunnus albacares*, Stock code: Thun\_alb\_IndianOcean.

Region: IOTC; SIOFA; CCSBT, Amsterdam-St Paul.

For figure captions: <http://www.seaaroundus.org/cmsy-method>

### Results for Management (based on BSM analysis)

$F_{msy} = 0.237$ , 95% CL = 0.167 - 0.335 (r and  $F_{msy}$  are linearly reduced if  $B < 1/2 B_{msy}$ )

$MSY = 400$ , 95% CL = 356 - 448;  $B_{msy} = 1689$ , 95% CL = 1284 - 2220

Biomass in last year = 1082, 95% CL = 761 - 1485

$B/B_{msy}$  in last year = 0.641, 95% CL = 0.451 - 0.879

$F/F_{msy} = 2.09$ , 95% CL = 1.52 - 2.97

Comment: !! Straddling stock for Antarctic ocean (FAO area 48, 58, and 88)

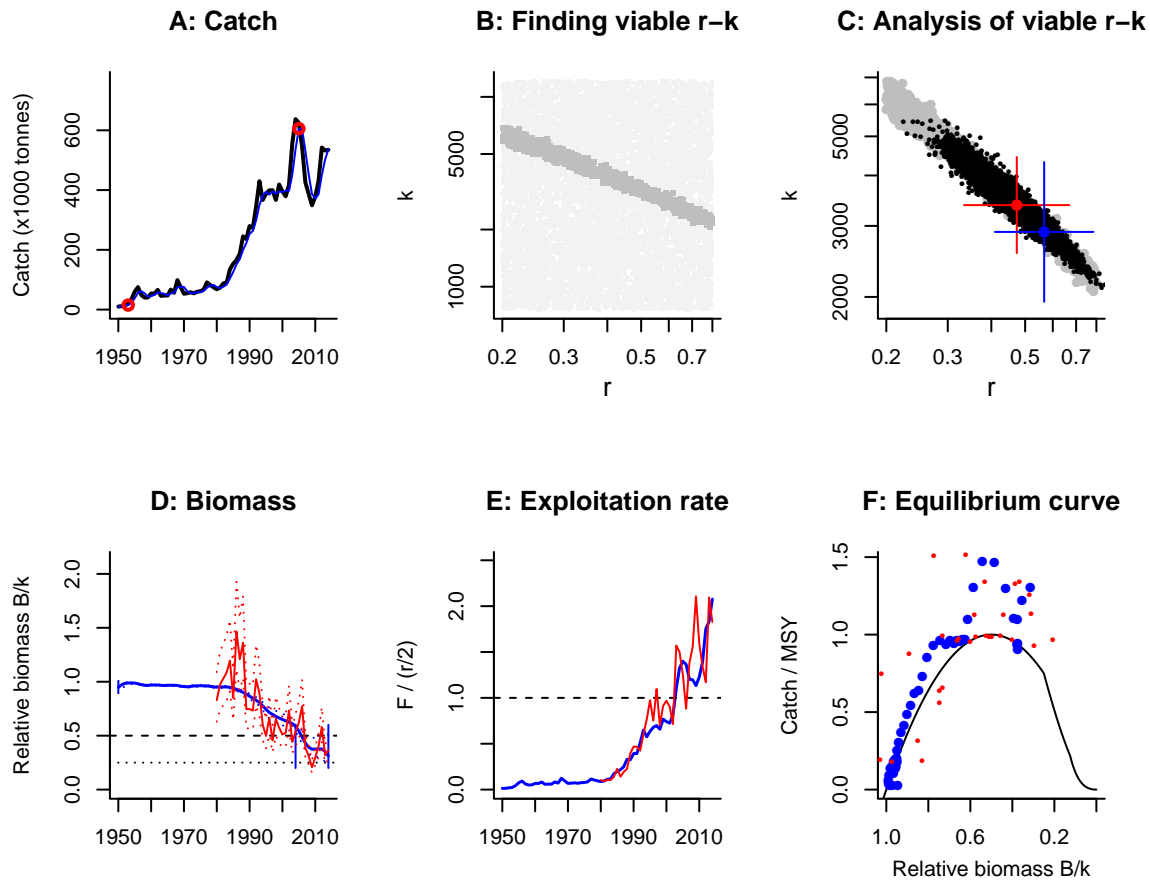


Figure 2:

MSY = 411, 95% CL = 363 - 465

Relative biomass last year = 0.313  $k$ , 95% CL = 0.204 - 0.508

Exploitation  $F/(r/2)$  in last year = 2.08

### Results from Bayesian Schaefer model using catch & CPUE

$r = 0.473$ , 95% CL = 0.334 - 0.67;  $k = 3377$ , 95% CL = 2569 - 4441

MSY = 400, 95% CL = 356 - 448

Relative biomass in last year = 0.32  $k$ , 95% CL = 0.225 - 0.44

Exploitation  $F/(r/2)$  in last year = 2.09

Source for relative biomass: [http://www.iotc.org/sites/default/files/documents/science/species\\_summaries/english/Yellowfin%20tuna%20Supporting%20Information.pdf](http://www.iotc.org/sites/default/files/documents/science/species_summaries/english/Yellowfin%20tuna%20Supporting%20Information.pdf)

Sea Around Us reconstructed catch data used from years 1950 - 2014 (tonnes/year)

Relative abundance data type = CPUE

Prior initial relative biomass = 0.9 - 1 default

Prior intermediate relative biomass = 0.2 - 0.6 in year 2004 default

Prior final relative biomass = 0.2 - 0.6, default

Prior range for  $r = 0.2 - 0.8$  default, prior range for  $k = 757 - 12116$

$q = 4.28e-07$ , 95% CL =  $3.31e-07 - 5.54e-07$

Prior range of  $q = 2.39e-07 - 9.54e-07$

Fishing mortality in last year = 0.494, 95% CL = 0.36 - 0.703

**Results of CMSY analysis with altogether 3105 viable trajectories for 664 r-k pairs**

$r = 0.567$ , 95% CL = 0.409 - 0.785;  $k = 2898$ , 95% CL = 1945 - 4318