

# Octopus

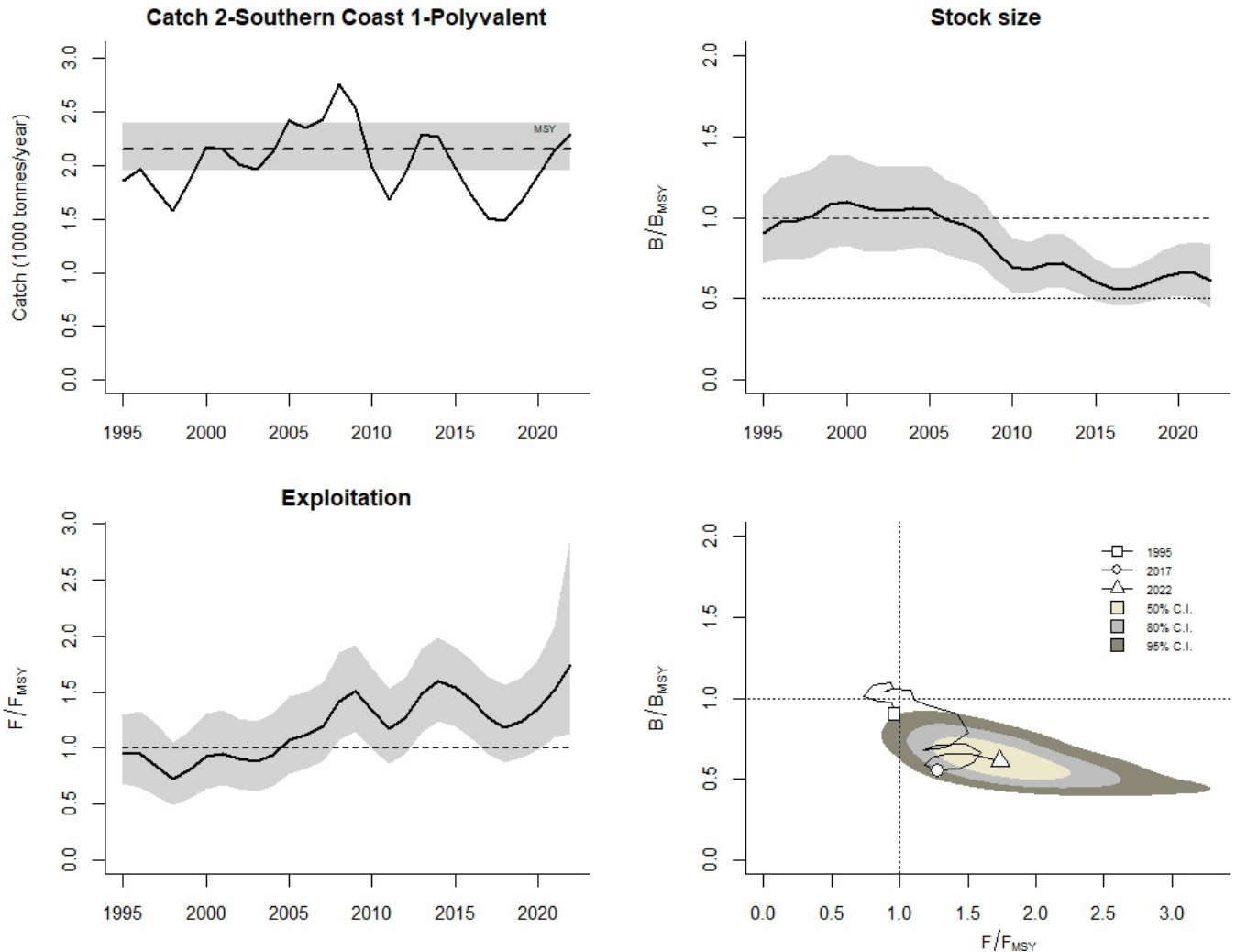
Species: *Octopus vulgaris*, Stock code: 2-Southern Coast 1-Polyvalent

Region: Iberia

Marine Ecoregion: Portugal

Reconstructed catch data used from years 1995 - 2022

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



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## Results for management (based on BSM analysis)

$F_{msy} = 0.359$ , 95% CL = 0.241 - 0.511 (if  $B > 1/2 B_{msy}$  then  $F_{msy} = 0.5 r$ )

$F_{msy} = 0.359$ , 95% CL = 0.241 - 0.511 ( $r$  and  $F_{msy}$  are linearly reduced if  $B < 1/2 B_{msy}$ )

$MSY = 2.15$ , 95% CL = 1.95 - 2.4;  $B_{msy} = 5.98$ , 95% CL = 4.18 - 8.98 (1000 tonnes)

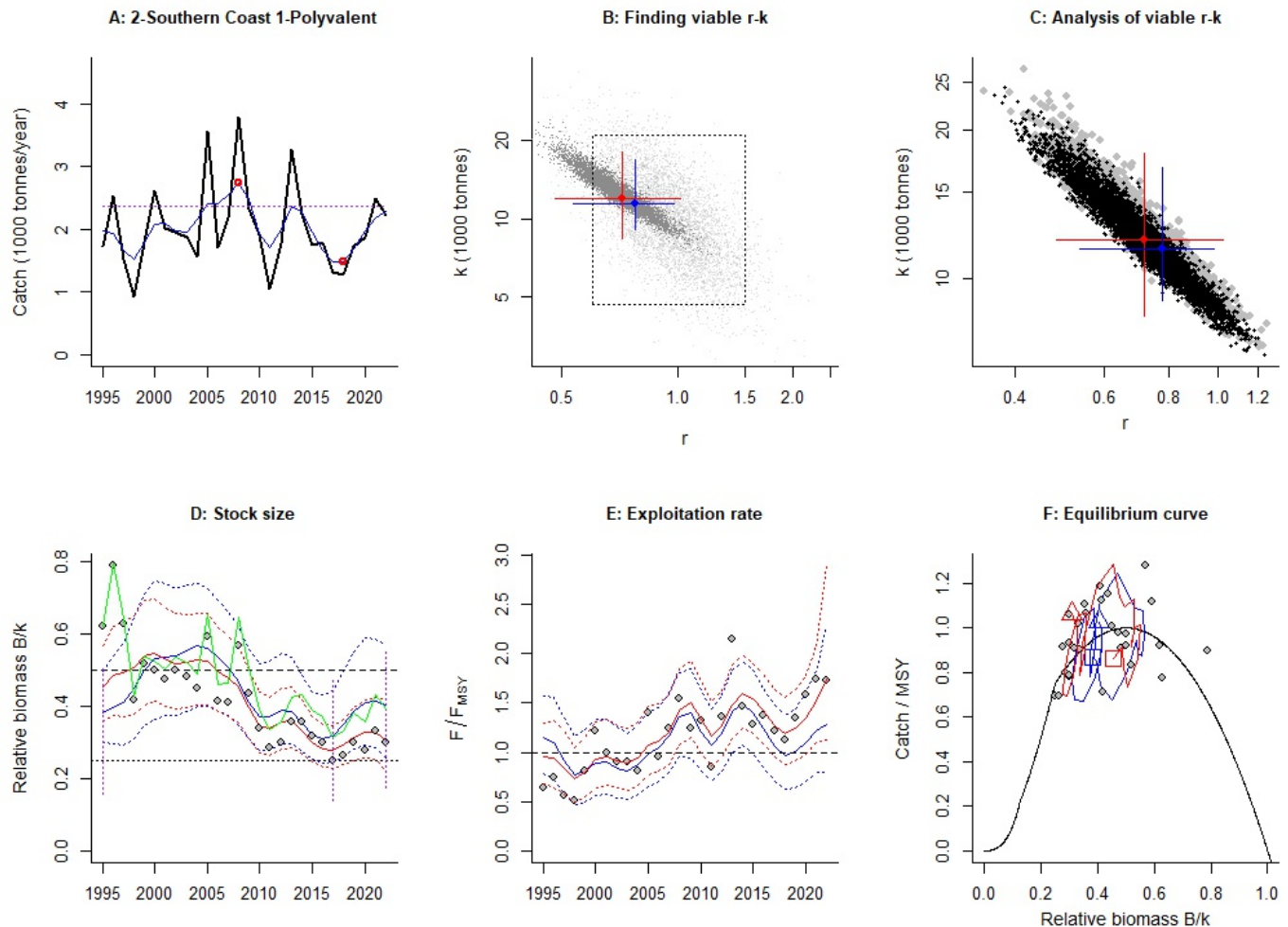
Biomass in last year = 3.64, 95% CL = 2.59 - 5.67 (1000 tonnes)

$B/B_{msy}$  in last year = 0.614, 95% CL = 0.443 - 0.837

Fishing mortality in last year = 0.622, 95% CL = 0.368 - 0.99

$F/F_{msy} = 1.74$ , 95% CL = 1.12 - 2.89

Comment:



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## Results of CMSY analysis conducted in JAGS

$r = 0.778$ , 95% CL = 0.537 - 0.98;  $k = 11.4$ , 95% CL = 9.03 - 16.8 (1000 tonnes)

MSY = 2.22, 95% CL = 2 - 2.47 (1000 tonnes/year)

Relative biomass last year = 0.404  $k$ , 95% CL = 0.257 - 0.567

Exploitation  $F/(r/2)$  in last year = 1.22

## Results from Bayesian Schaefer model using catch and CPUE

$r = 0.718$ , 95% CL = 0.481 - 1.02;  $k = 12$ , 95% CL = 8.35 - 18

$r$ - $k$  log correlation = -0.965

MSY = 2.15, 95% CL = 1.95 - 2.4 (1000 tonnes/year)

Relative biomass in last year = 0.404  $k$ , 95% CL = 0.257 - 0.567

Exploitation  $F/(r/2)$  in last year = 1.28

$q = 0.473$ , 95% CL = 0.325 - 0.653

Prior range of  $q$  = 0.183 - 3.28

Relative abundance data type = CPUE

Prior initial relative biomass = 0.156 - 0.509 default

Prior intermediate relative biomass = 0.138 - 0.472 in year 2017 default

Prior final relative biomass = 0.175 - 0.55, default

Prior range for  $r$  = 0.6 - 1.5 default, prior range for  $k$  = 4.69 - 21 (1000 tonnes) default

Source for relative biomass:

DGRM