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SWD(2018) 60 final

PART 5/6

**COMMISSION STAFF WORKING DOCUMENT**

**IMPACT ASSESSMENT**

*Accompanying the document*

**PROPOSAL FOR A REGULATION OF THE EUROPEAN PARLIAMENT AND OF  
THE COUNCIL**

**Establishing a multiannual plan for the fisheries exploiting demersal stocks in the  
western Mediterranean Sea**

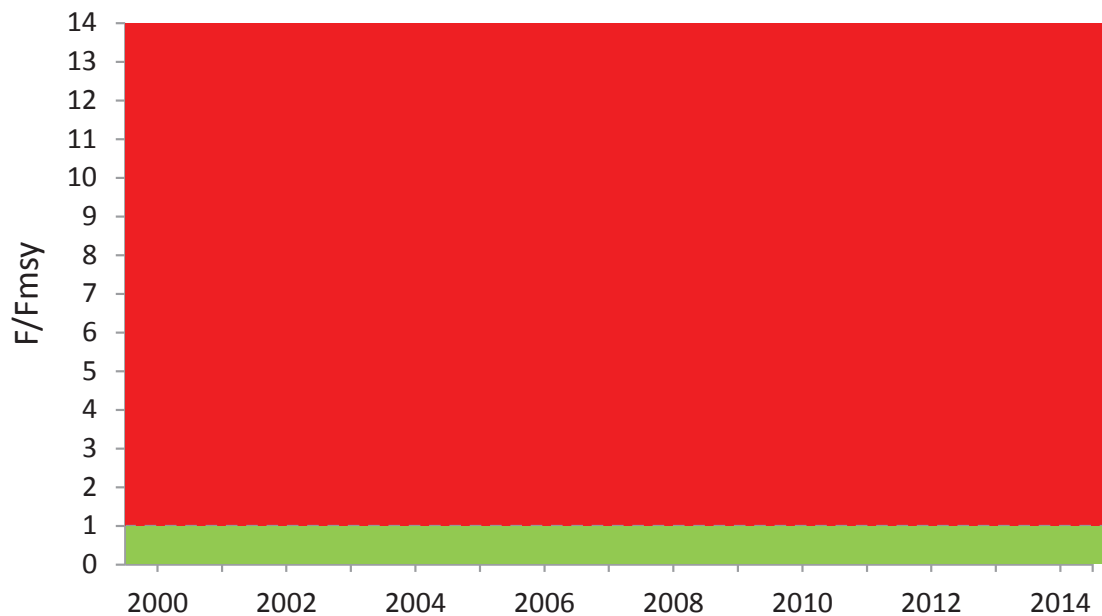
{COM(2018) 115 final} - {SWD(2018) 59 final}

## ANNEX 8: ALARMING STATE OF MOST DEMERSAL STOCKS

*This annex provides an overview of the state of most demersal stocks in the western Mediterranean Sea. It also shows the evolution of the problem over time.*

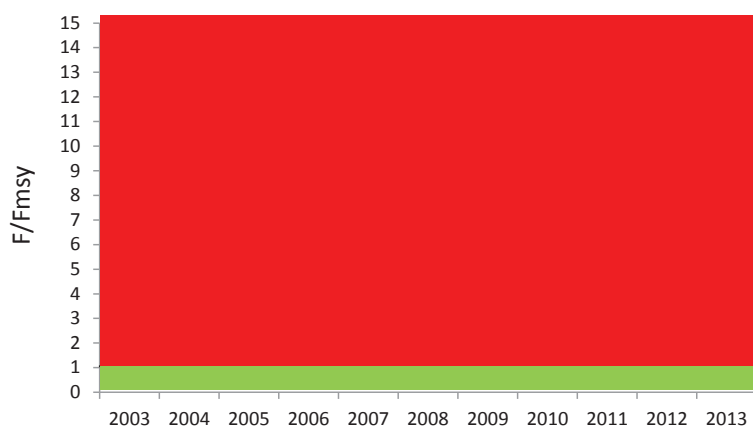
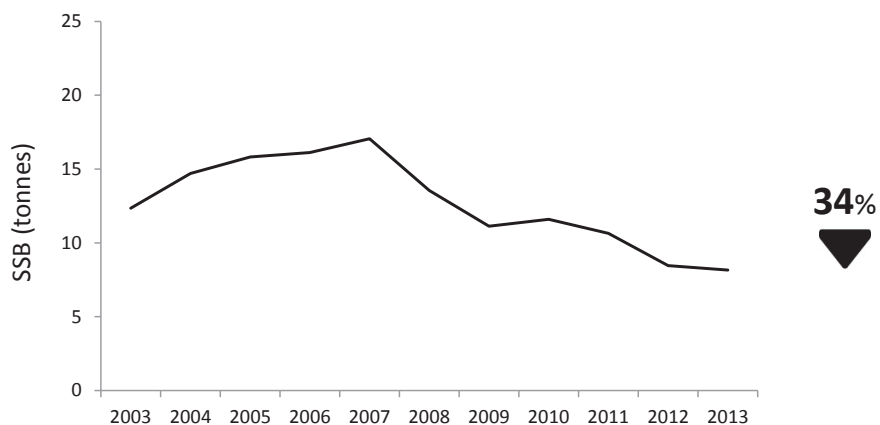
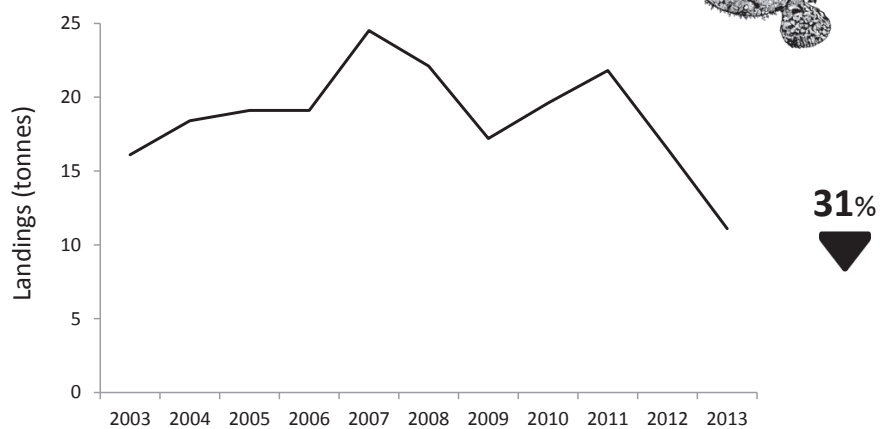
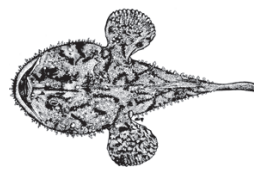
**Source:** *Gibin et al. (2017). The STECF MED&BS Database Visualisation Dashboard. Scientific Information system and database, JRC104195.*

### Evolution of the problem of overfishing for demersal stocks exploited in the western Mediterranean Sea



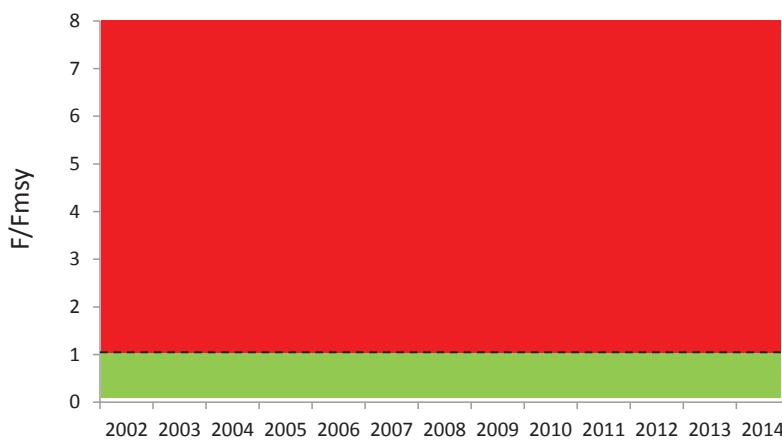
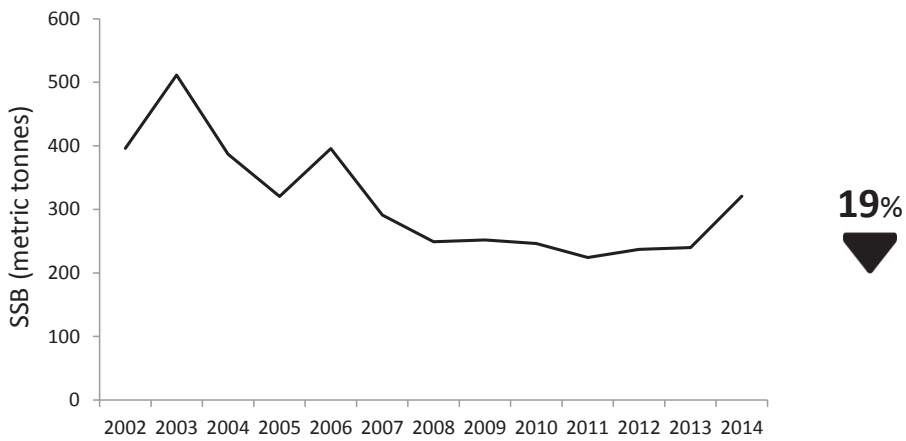
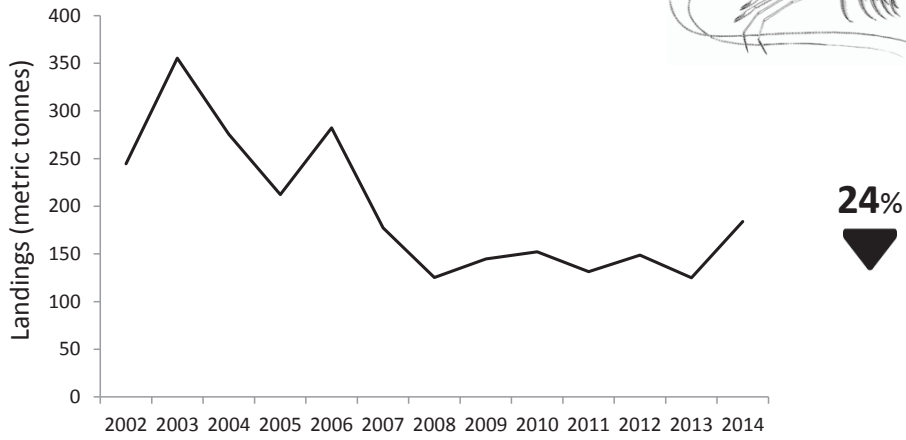
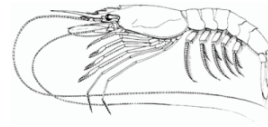
**Figure A8.1** Evolution of the problem of overfishing for most demersal stocks exploited in the western Mediterranean Sea (from 2000 to 2014). Overfishing is expressed as the ratio between current fishing mortality and the target fishing mortality at MSY levels (i.e.  $F/F_{MSY}$ ). The red area indicates overfishing (i.e.  $F > F_{MSY}$ ) and the green area indicates sustainable fishing activity (i.e.  $F < F_{MSY}$ ). This figure indicates that the large majority of stocks have been continuously exploited well beyond sustainable levels.

**Anglerfish in GSA 1**  
*Lophius budegassa*



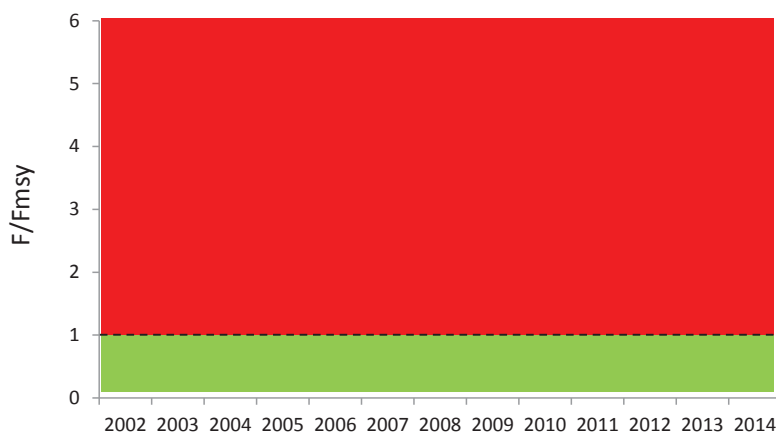
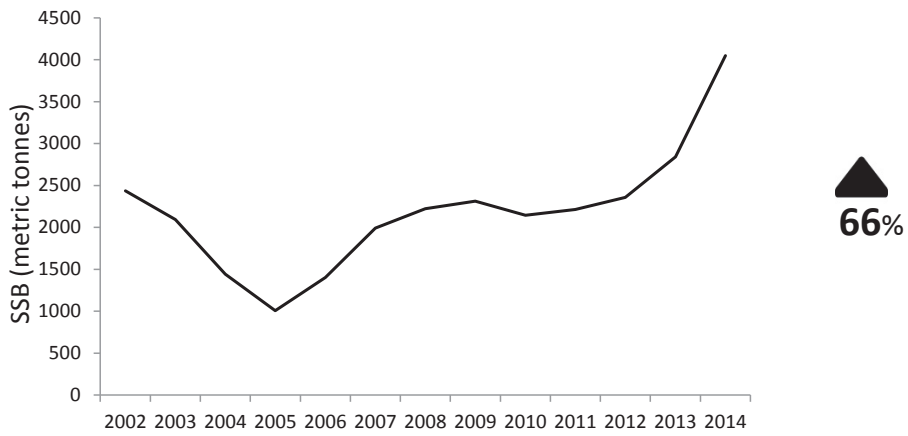
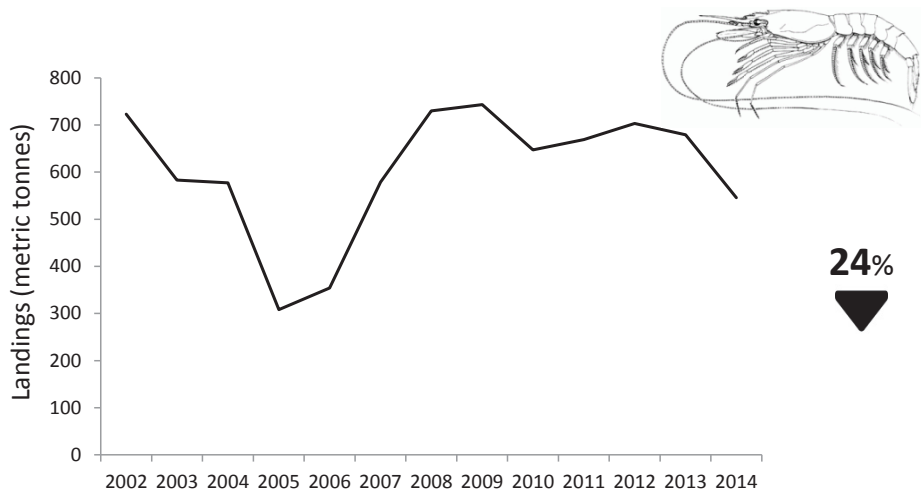
**Figure A8.2** Trend in total landings (top graph), SSB (middle graph) and evolution of the ratio  $F/F_{MSY}$  over time (bottom graph; red area means overfishing as current  $F > F_{MSY}$  and green area means sustainable as  $F < F_{MSY}$ ) for Anglerfish in GSA 1 (Alboran Sea).

**Blue and red shrimp in GSA 1**  
*Aristeus antennatus*



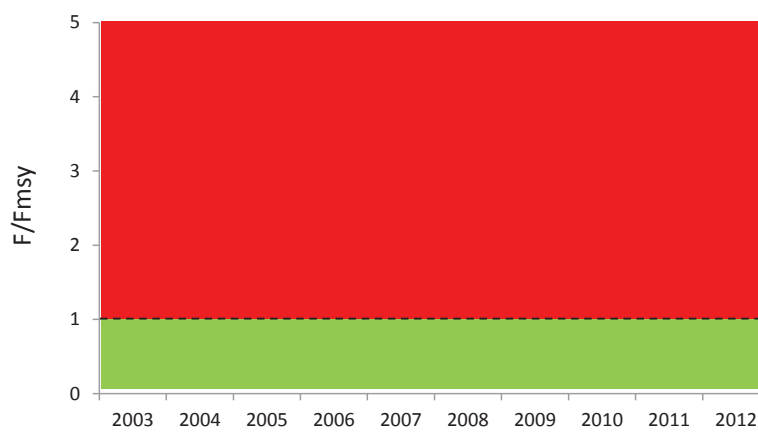
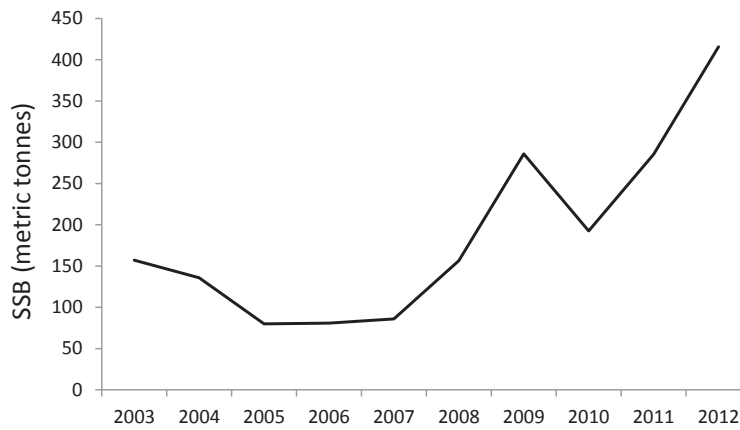
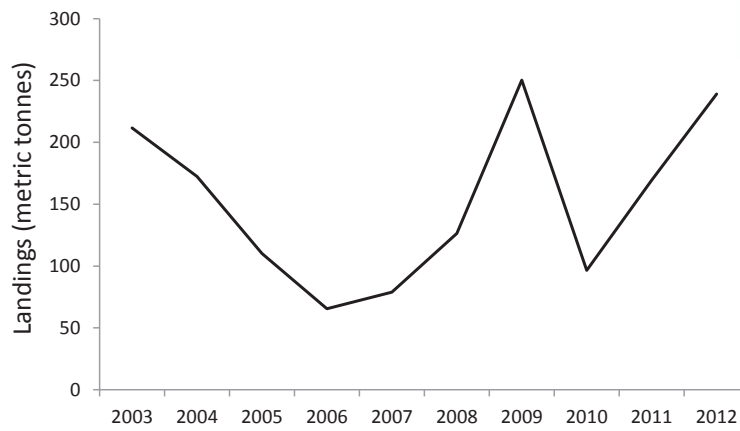
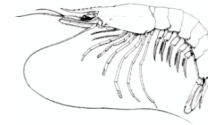
**Figure A8.3** Trend in total landings (top graph), SSB (middle graph) and evolution of the ratio  $F/F_{MSY}$  over time (bottom graph; red area means overfishing as current  $F > F_{MSY}$  and green area means sustainable as  $F < F_{MSY}$ ) for Blue and red shrimp in GSA 1 (Alboran Sea).

**Blue and red shrimp in GSA 6**  
*Aristeus antennatus*



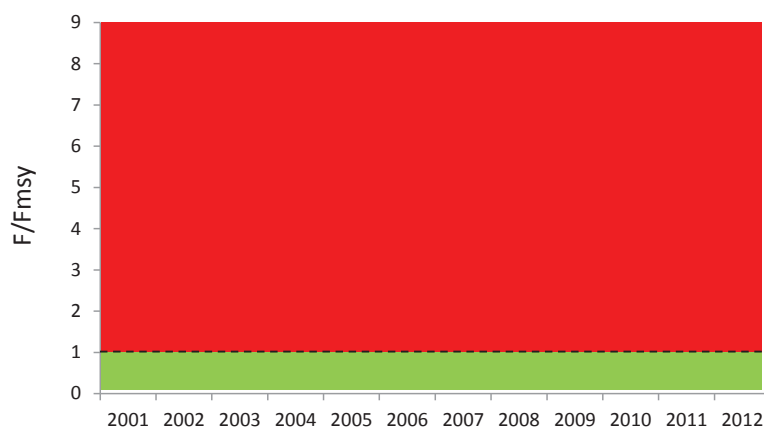
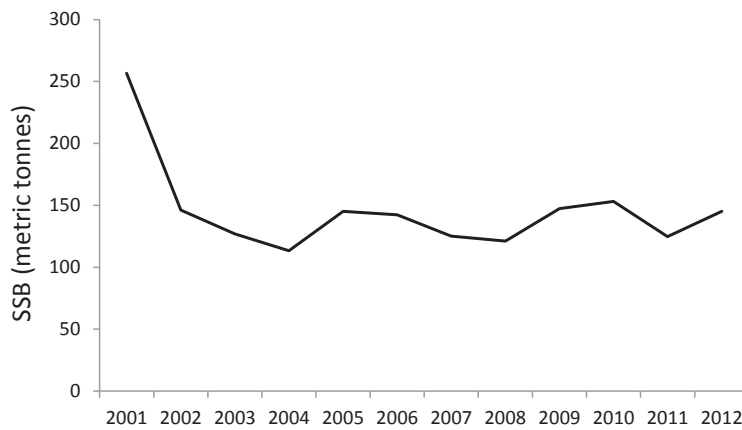
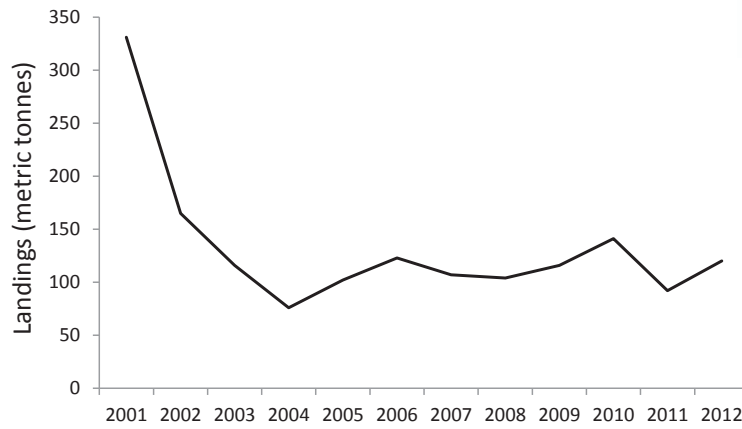
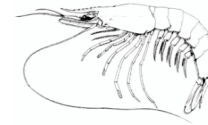
**Figure A8.4** Trend in total landings (top graph), SSB (middle graph) and evolution of the ratio  $F/F_{MSY}$  over time (bottom graph; red area means overfishing as current  $F > F_{MSY}$  and green area means sustainable as  $F < F_{MSY}$ ) for Blue and red shrimp in GSA 6 (Northern Spain).

**Deep-water rose shrimp in GSA 1**  
*Parapenaeus longirostris*



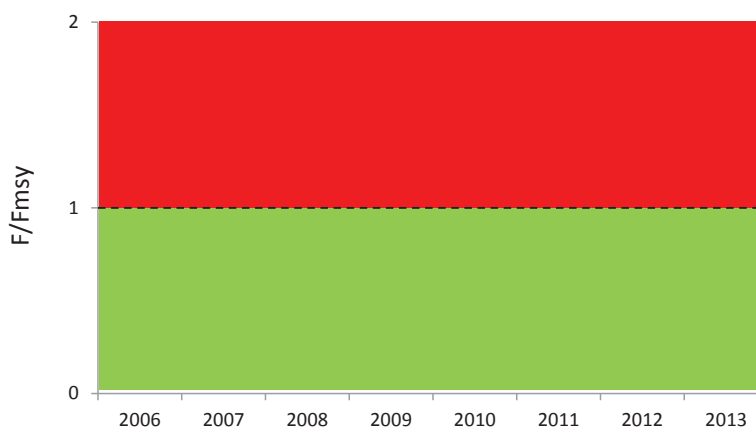
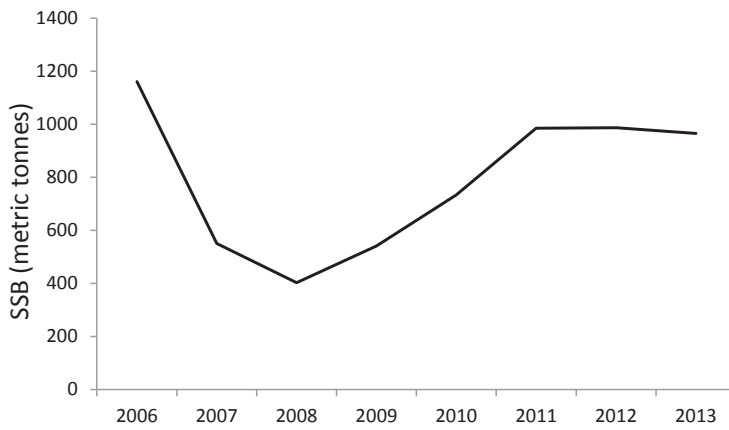
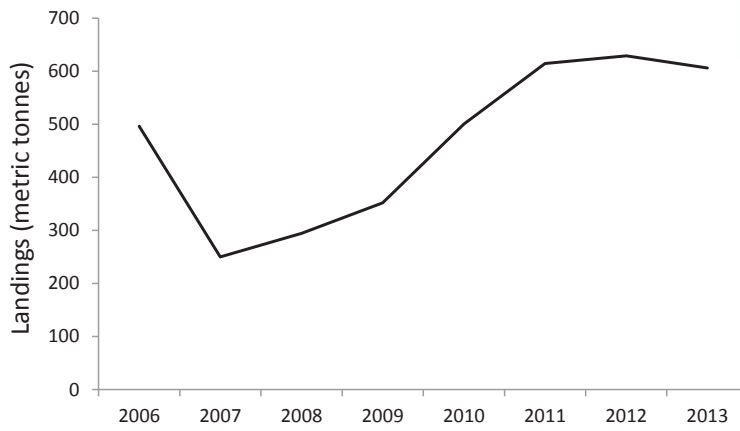
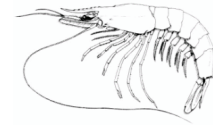
**Figure A8.5** Trend in total landings (top graph), SSB (middle graph) and evolution of the ratio  $F/F_{MSY}$  over time (bottom graph; red area means overfishing as current  $F > F_{MSY}$  and green area means sustainable as  $F < F_{MSY}$ ) for Deep-water rose shrimp in GSA 1 (Alboran Sea).

**Deep-water rose shrimp in GSA 6**  
*Parapenaeus longirostris*



**Figure A8.6** Trend in total landings (top graph), SSB (middle graph) and evolution of the ratio  $F/F_{MSY}$  over time (bottom graph; red area means overfishing as current  $F > F_{MSY}$  and green area means sustainable as  $F < F_{MSY}$ ) for Deep-water rose shrimp in GSA 6 (Northern Spain).

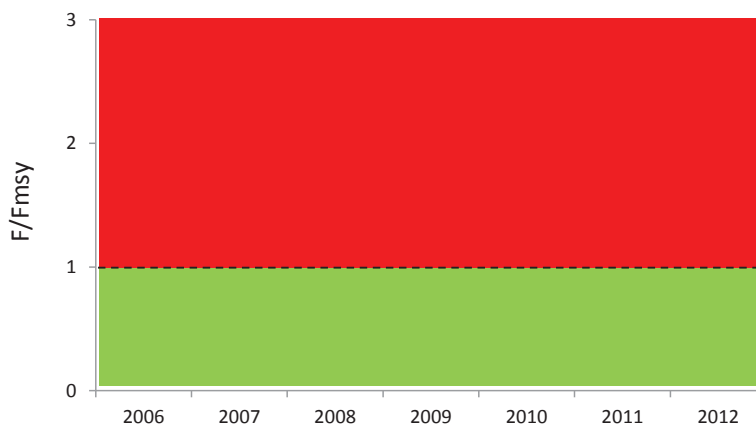
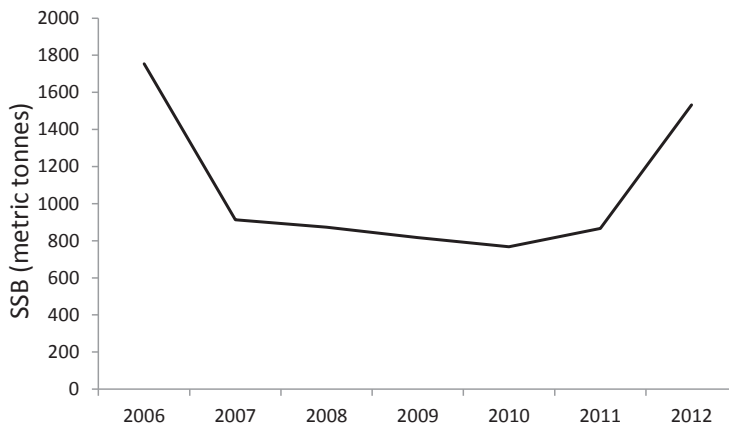
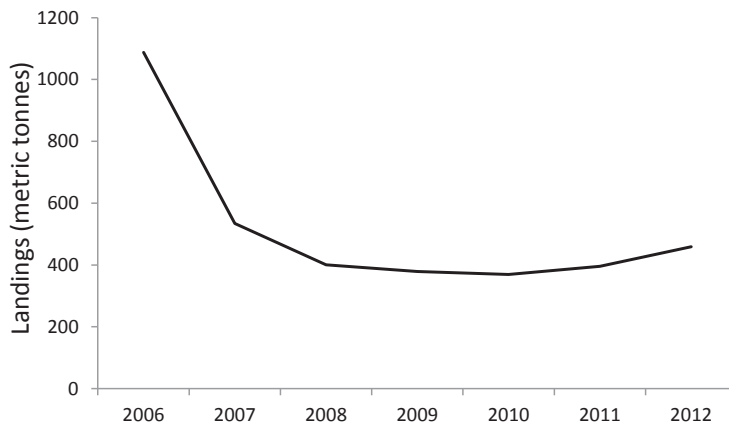
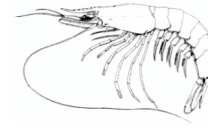
**Deep-water rose shrimp in GSA 9**  
*Parapenaeus longirostris*



**Figure A8.7** Trend in total landings (top graph), SSB (middle graph) and evolution of the ratio  $F/F_{MSY}$  over time (bottom graph; red area means overfishing as  $F > F_{MSY}$  and green area means sustainable as  $F < F_{MSY}$ ) for Deep-water rose shrimp in GSA 9 (Ligurian and North Tyrrhenian Sea).

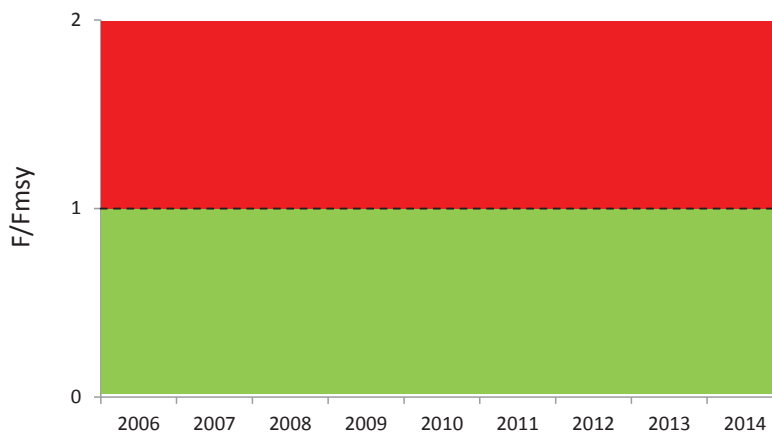
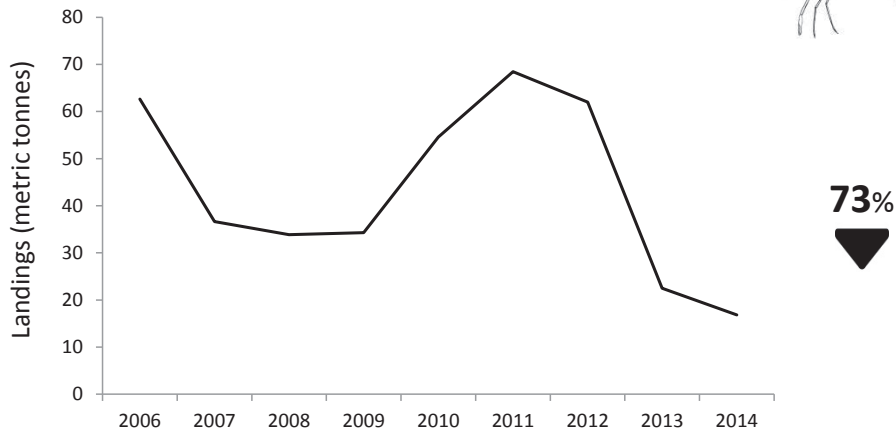
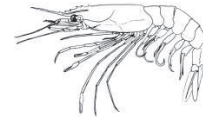


**Deep-water rose shrimp in GSA 10**  
*Parapenaeus longirostris*



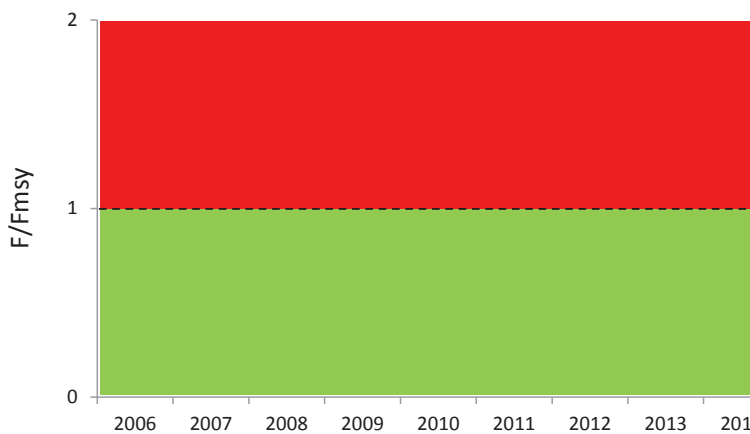
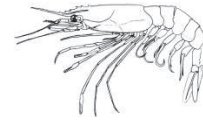
**Figure A8.8** Trend in total landings (top graph), SSB (middle graph) and evolution of the ratio  $F/F_{MSY}$  over time (bottom graph; red area means overfishing as  $F > F_{MSY}$  and green area means sustainable as  $F < F_{MSY}$ ) for Deep-water rose shrimp in GSA 10 (South Tyrrhenian Sea).

**Giant red shrimp in GSA 9**  
*Aristeomorpha foliacea*



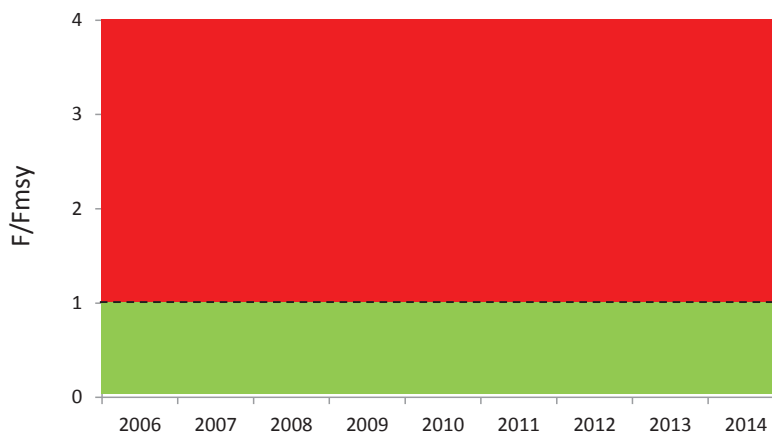
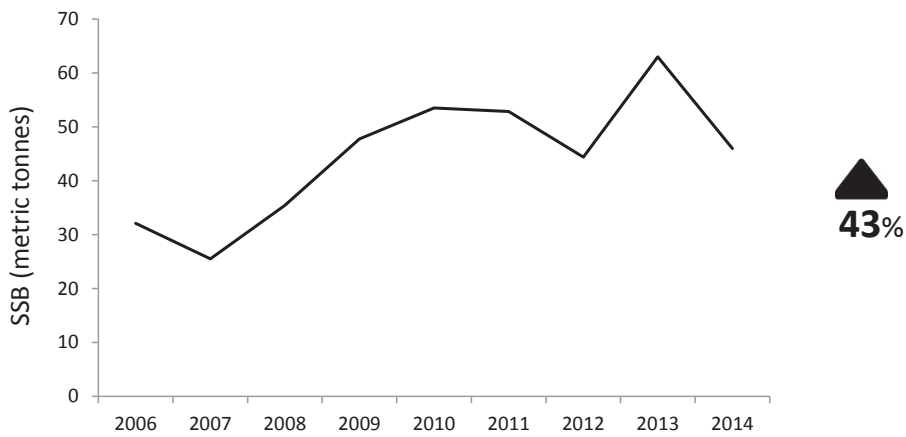
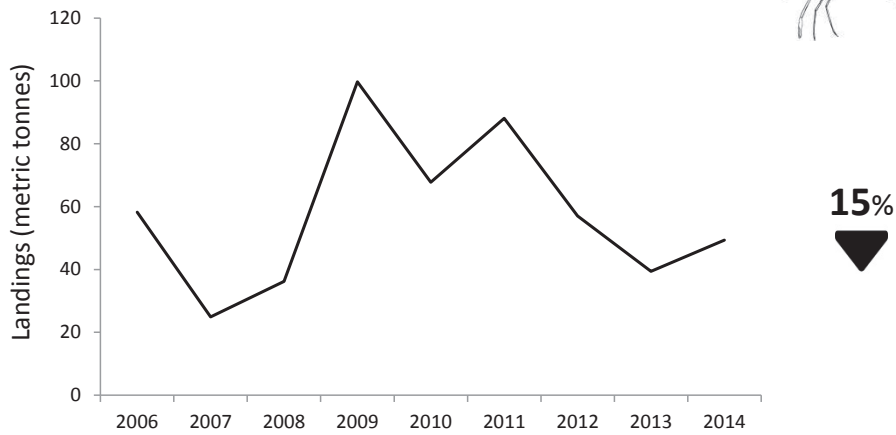
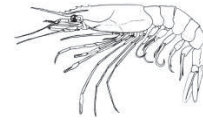
**Figure A8.9** Trend in total landings (top graph), SSB (middle graph) and evolution of the ratio  $F/F_{MSY}$  over time (bottom graph; red area means overfishing as current  $F > F_{MSY}$  and green area means sustainable as  $F < F_{MSY}$ ) for Giant red shrimp in GSA 9 (Ligurian and North Tyrrhenian Sea).

**Giant red shrimp in GSA 10**  
*Aristeomorpha foliacea*



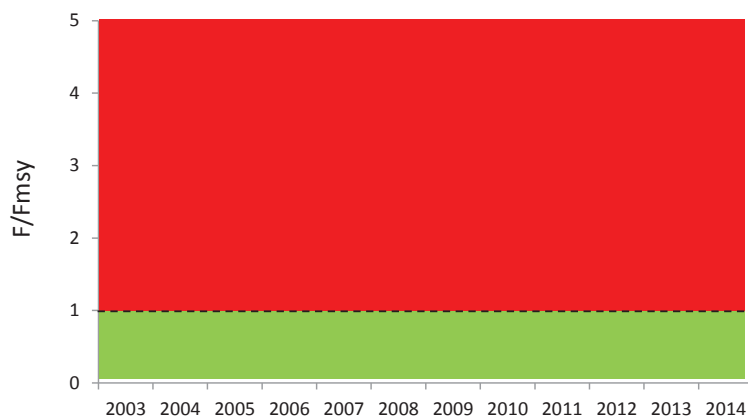
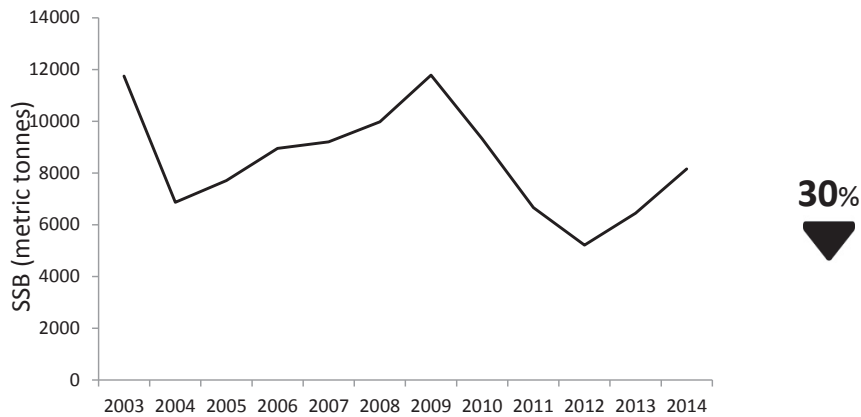
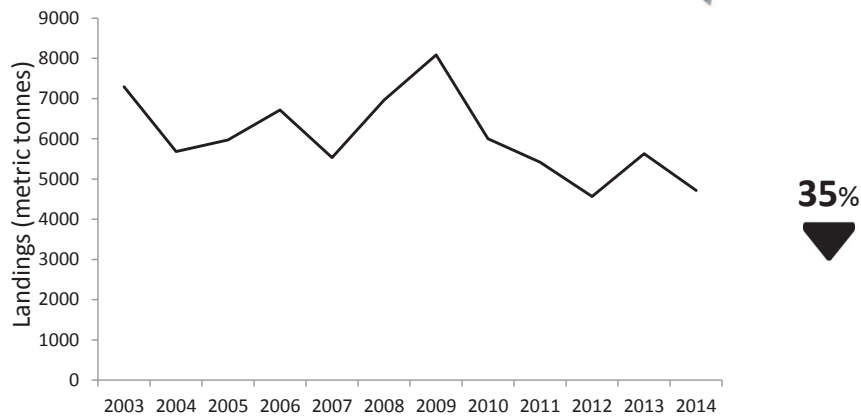
**Figure A8.10** Trend in total landings (top graph), SSB (middle graph) and evolution of the ratio  $F/F_{MSY}$  over time (bottom graph; red area means overfishing as current  $F > F_{MSY}$  and green area means sustainable as  $F < F_{MSY}$ ) for Giant red shrimp in GSA 10 (South Tyrrhenian Sea).

**Giant red shrimp in GSA 11**  
*Aristeomorpha foliacea*



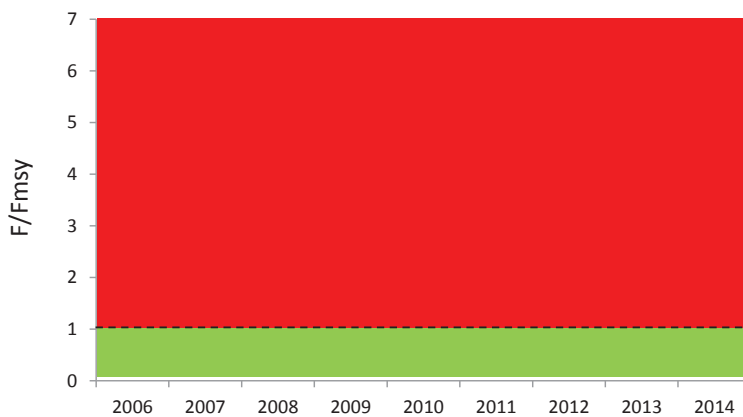
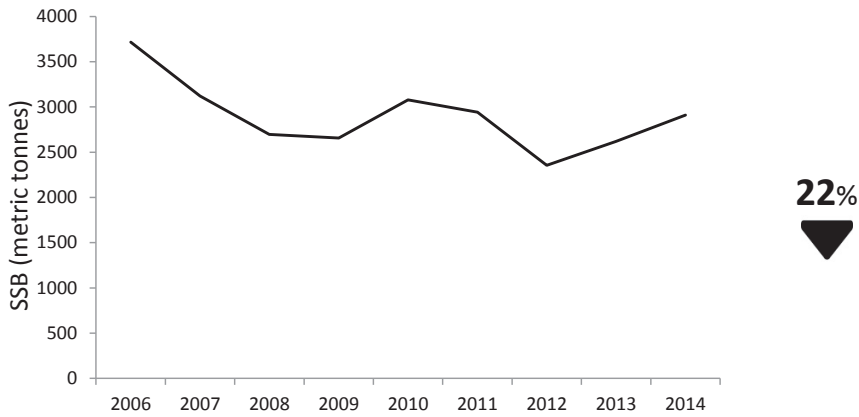
**Figure A8.11** Trend in total landings (top graph), SSB (middle graph) and evolution of the ratio  $F/F_{MSY}$  over time (bottom graph; red area means overfishing as current  $F > F_{MSY}$  and green area means sustainable as  $F < F_{MSY}$ ) for Giant red shrimp in GSA 11 (Sardinia).

**Hake in GSAs 1-5-6-7**  
*Merluccius merluccius*



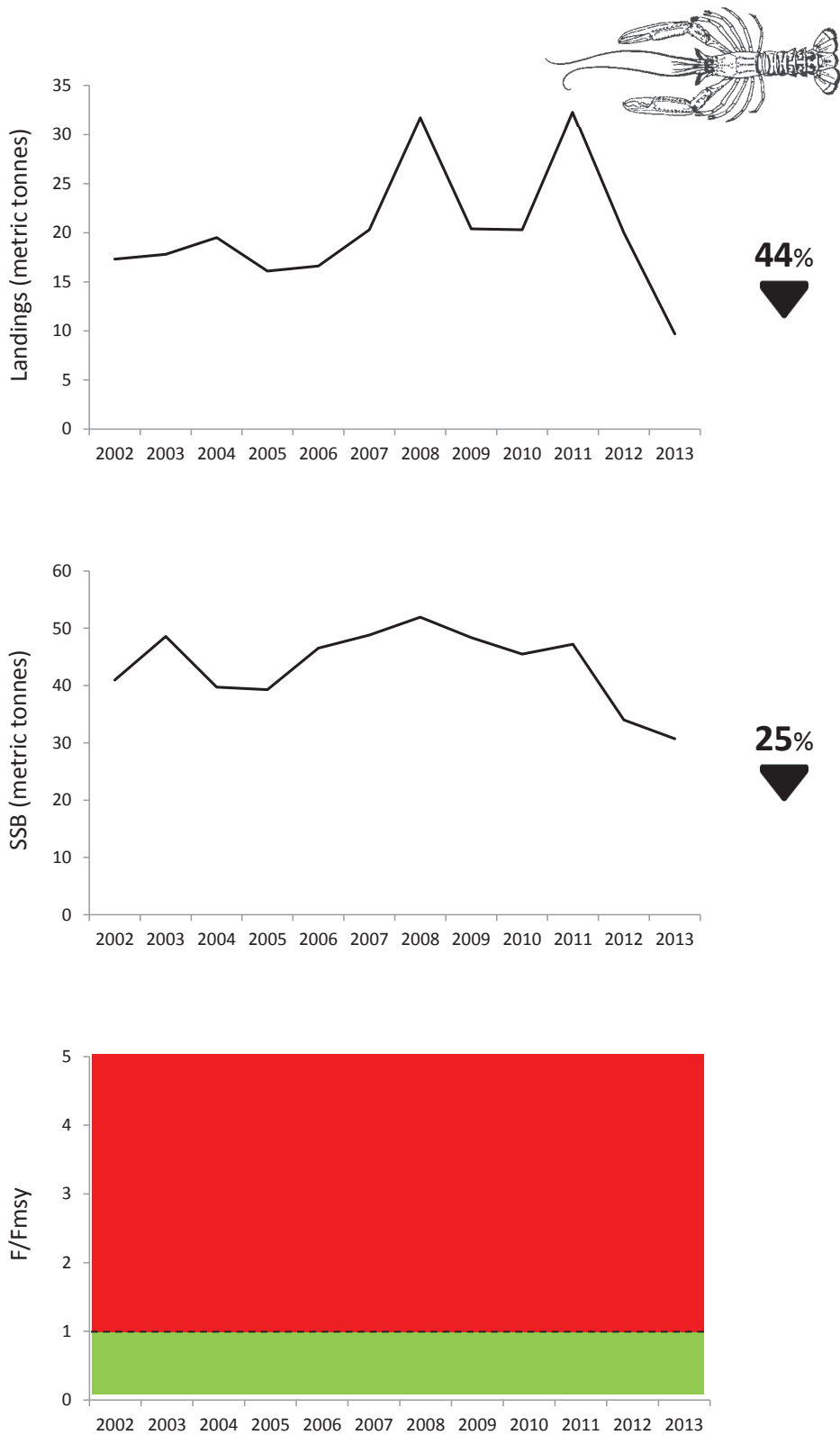
**Figure A8.12** Trend in total landings (top graph), SSB (middle graph) and evolution of the ratio  $F/F_{MSY}$  over time (bottom graph; red area means overfishing as current  $F > F_{MSY}$  and green area means sustainable as  $F < F_{MSY}$ ) for Hake in GSA 1-5-6-7 (stock distributed in the Alboran Sea, Northern Spain, Balearic Islands and Gulf of Lion).

**Hake in GSAs 9-10-11**  
*Merluccius merluccius*



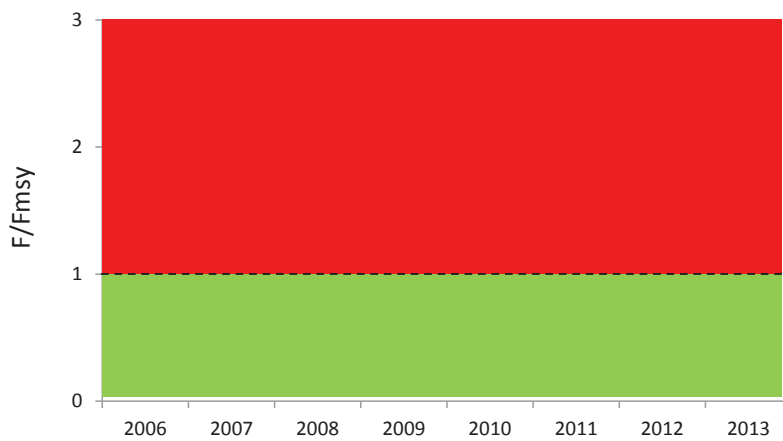
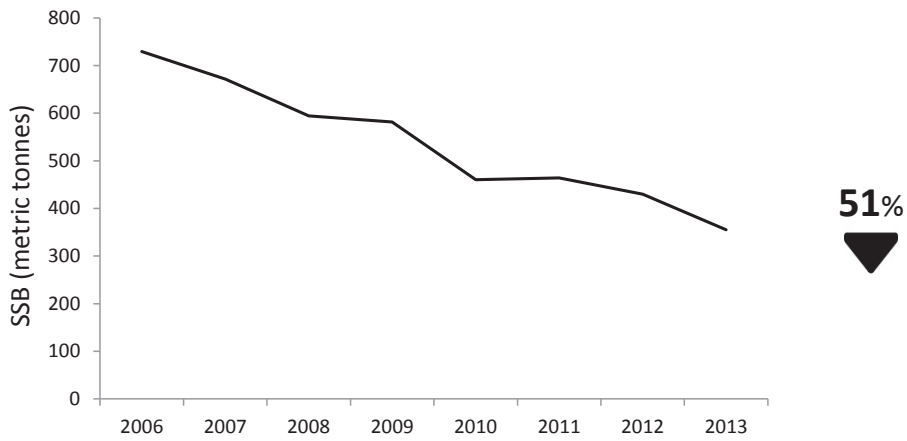
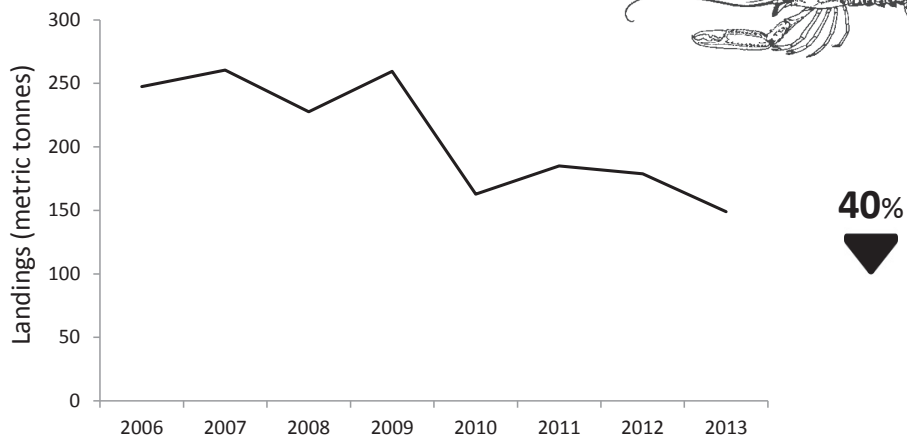
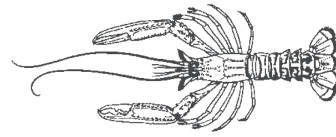
**Figure A8.13** Trend in total landings (top graph), SSB (middle graph) and evolution of the ratio  $F/F_{MSY}$  over time (bottom graph; red area means overfishing as current  $F > F_{MSY}$  and green area means sustainable as  $F < F_{MSY}$ ) for Hake in GSA 9-10-11 (stock distributed in the Ligurian and Tyrrhenian Seas, including in the island of Sardinia).

**Norway lobster in GSA 5**  
*Nephrops norvegicus*



**Figure A8.14** Trend in total landings (top graph), SSB (middle graph) and evolution of the ratio  $F/F_{MSY}$  over time (bottom graph; red area means overfishing as  $F > F_{MSY}$  and green area means sustainable as  $F < F_{MSY}$ ) for Norway lobster in GSA 5 (Balearic Islands).

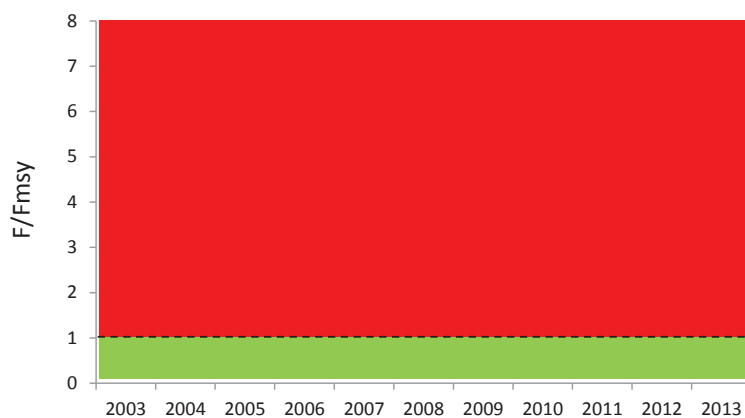
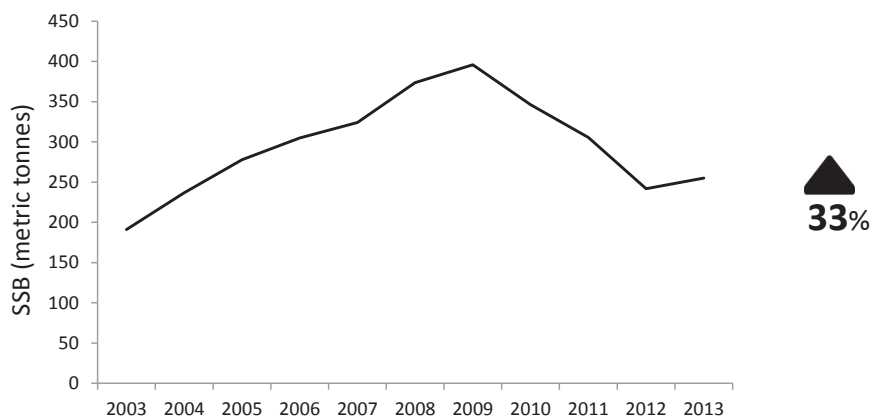
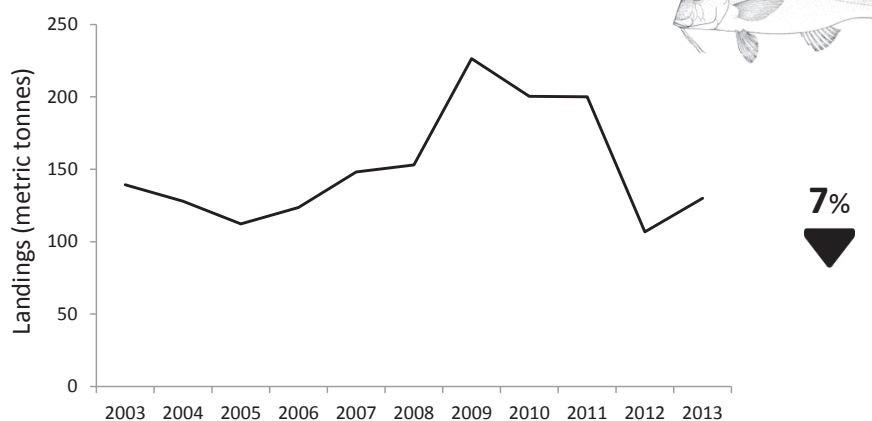
**Norway lobster in GSA 9**  
*Nephrops norvegicus*



**Figure A8.15** Trend in total landings (top graph), SSB (middle graph) and evolution of the ratio  $F/F_{MSY}$  over time (bottom graph; red area means overfishing as current  $F > F_{MSY}$  and green area means sustainable as  $F < F_{MSY}$ ) for Norway lobster in GSA 9 (Ligurian and North Tyrrhenian Seas).

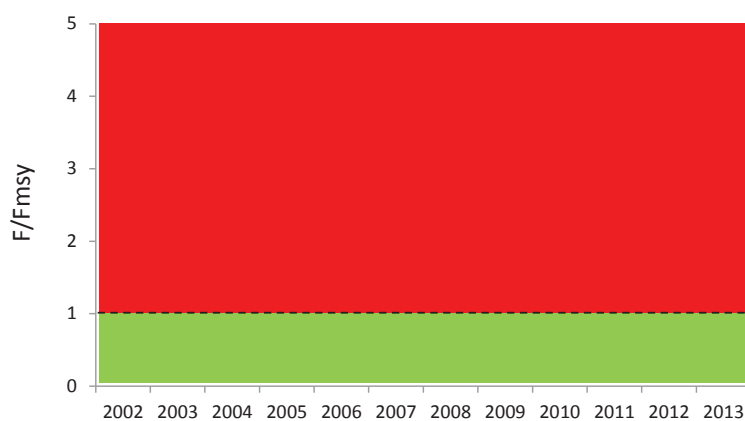
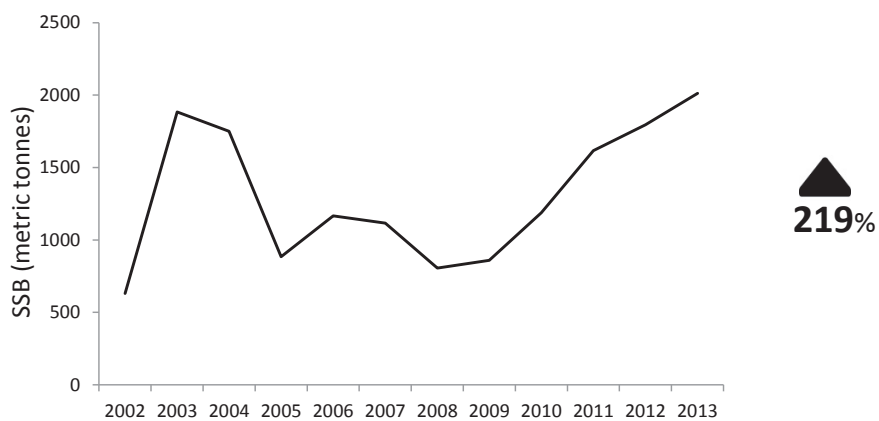
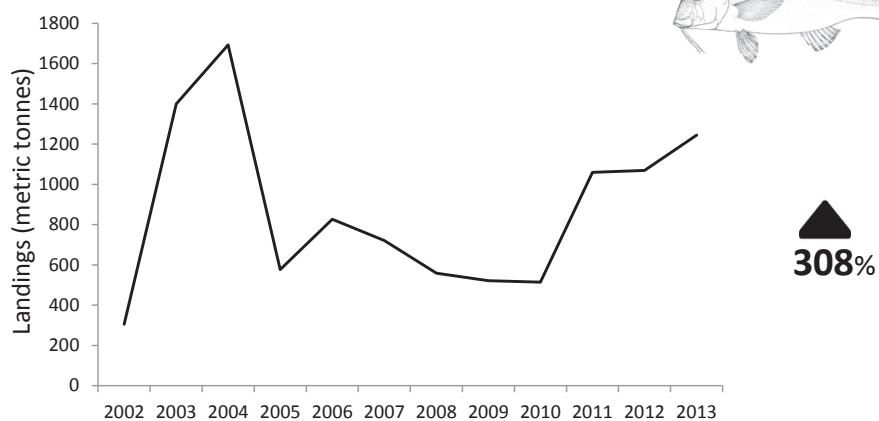


**Red mullet in GSA 1**  
*Mullus barbatus*



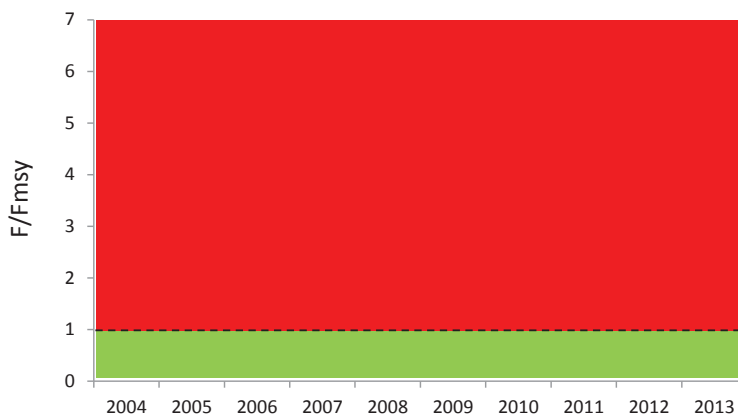
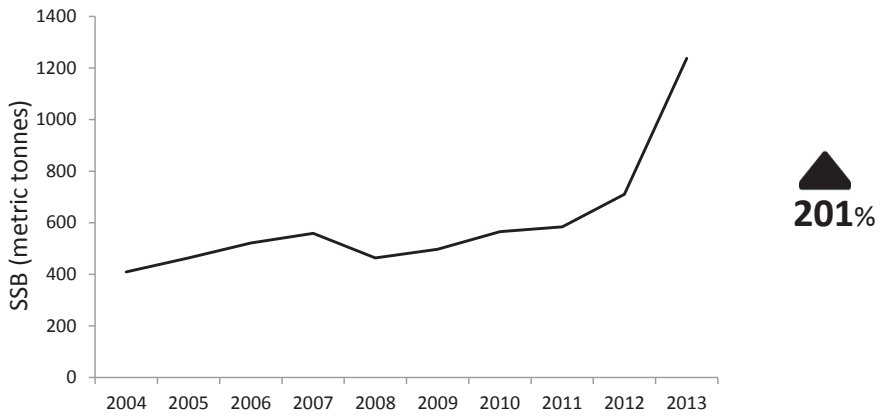
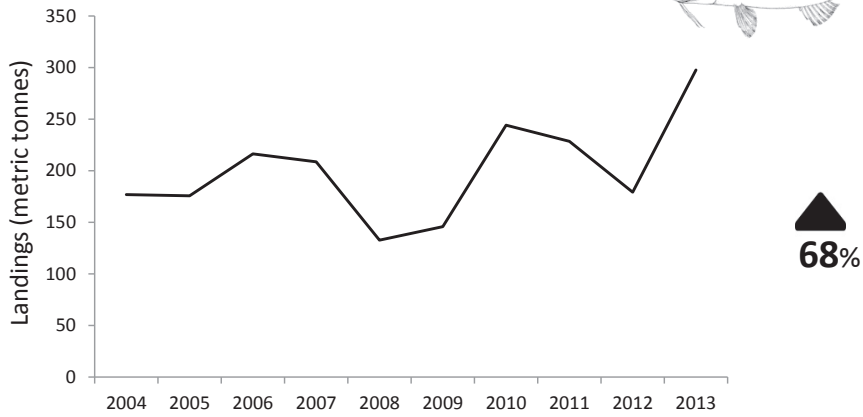
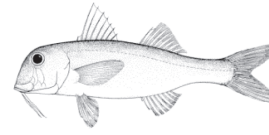
**Figure A8.16** Trend in total landings (top graph), SSB (middle graph) and evolution of the ratio  $F/F_{MSY}$  over time (bottom graph; red area means overfishing as current  $F > F_{MSY}$  and green area means sustainable as  $F < F_{MSY}$ ) for Red mullet in GSA 1 (Alboran Sea).

**Red mullet in GSA 6**  
*Mullus barbatus*



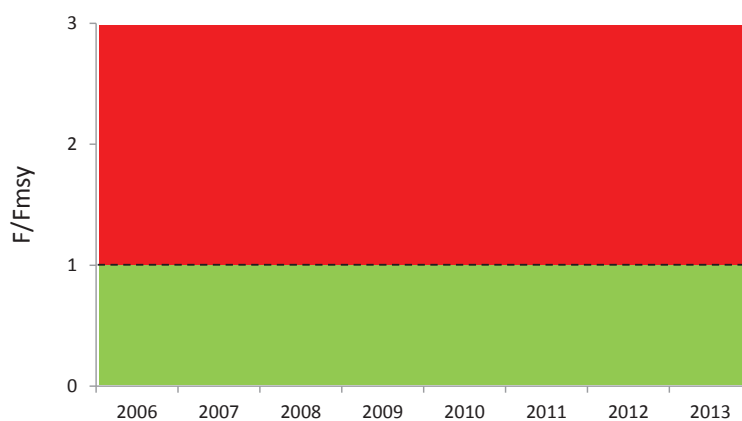
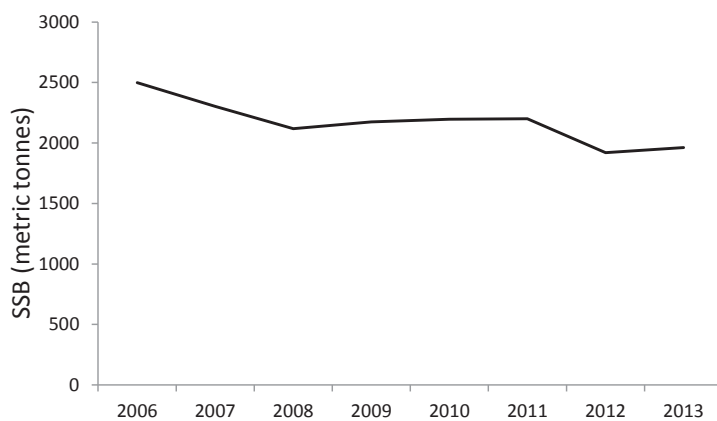
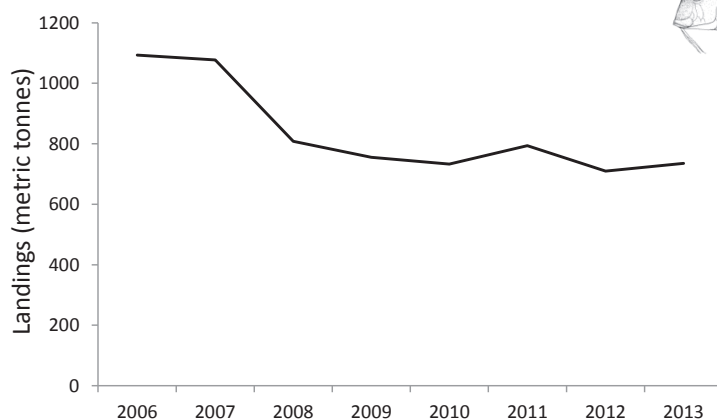
**Figure A8.17** Trend in total landings (top graph), SSB (middle graph) and evolution of the ratio  $F/F_{MSY}$  over time (bottom graph; red area means overfishing as  $F > F_{MSY}$  and green area means sustainable as  $F < F_{MSY}$ ) for Red mullet in GSA 6 (Northern Spain).

**Red mullet in GSA 7**  
*Mullus barbatus*



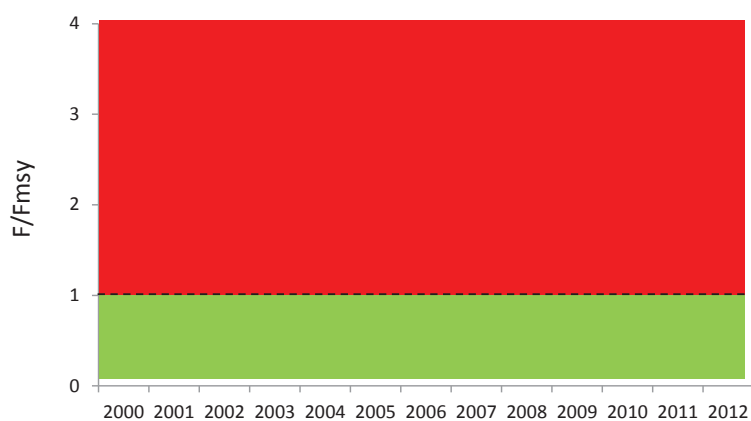
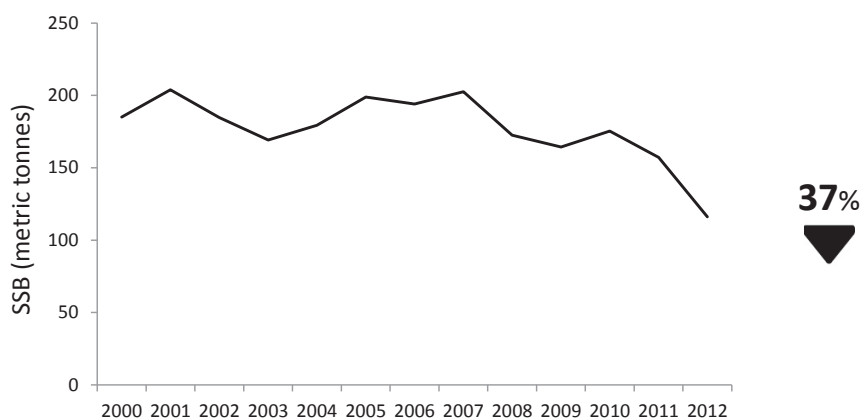
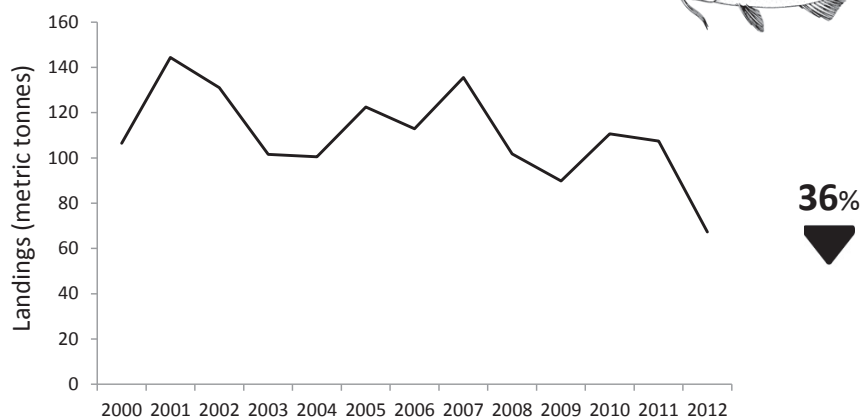
**Figure A8.18** Trend in total landings (top graph), SSB (middle graph) and evolution of the ratio  $F/F_{MSY}$  over time (bottom graph; red area means overfishing as current  $F > F_{MSY}$  and green area means sustainable as  $F < F_{MSY}$ ) for Red mullet in GSA 7 (Gulf of Lion).

**Red mullet in GSA 9**  
*Mullus barbatus*



**Figure A8.19** Trend in total landings (top graph), SSB (middle graph) and evolution of the ratio  $F/F_{MSY}$  over time (bottom graph; red area means overfishing as current  $F > F_{MSY}$  and green area means sustainable as  $F < F_{MSY}$ ) for Red mullet in GSA 9 (Ligurian and North Tyrrhenian Seas).

**Striped red mullet in GSA 5**  
*Mullus surmuletus*



**Figure A8.20** Trend in total landings (top graph), SSB (middle graph) and evolution of the ratio  $F/F_{MSY}$  over time (bottom graph; red area means overfishing as current  $F > F_{MSY}$  and green area means sustainable as  $F < F_{MSY}$ ) for Stripped red mullet in GSA 5 (Balearic Islands).