**Stock: Anglerfish *L. piscatorius* in Sub-areas VII and VIII**

**Assessment Quality Control Diagram 1**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Average F(3-7) until 2000 F(3-8) after | | | | | | | | | | | | | | | |
| Year | | | | | | | | | | | | | | | |
| Date of assessment | 1988 | | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
| 1989 |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990 |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | 0.32 | | 0.34 | 0.39 | 0.32 |  |  |  |  |  |  |  |  |  |  |  |
| 1993 | 0.32 | | 0.35 | 0.40 | 0.34 | 0.23 |  |  |  |  |  |  |  |  |  |  |
| 1994 | 0.32 | | 0.36 | 0.43 | 0.38 | 0.28 | 0.28 |  |  |  |  |  |  |  |  |  |
| 1995 | 0.32 | | 0.37 | 0.41 | 0.39 | 0.34 | 0.29 | 0.38 |  |  |  |  |  |  |  |  |
| 1996 | 0.32 | | 0.38 | 0.44 | 0.38 | 0.30 | 0.27 | 0.33 | 0.32 |  |  |  |  |  |  |  |
| 1997 | 0.31 | | 0.36 | 0.41 | 0.35 | 0.27 | 0.23 | 0.24 | 0.30 | 0.24 |  |  |  |  |  |  |
| 1998 | 0.30 | | 0.35 | 0.40 | 0.33 | 0.25 | 0.22 | 0.22 | 0.26 | 0.27 | 0.22 |  |  |  |  |  |
| 1999 | 0.30 | | 0.35 | 0.40 | 0.35 | 0.27 | 0.24 | 0.25 | 0.30 | 0.34 | 0.34 | 0.26 |  |  |  |  |
| 2000 | 0.34 | | 0.38 | 0.38 | 0.35 | 0.27 | 0.20 | 0.20 | 0.25 | 0.27 | 0.26 | 0.20 |  |  |  |  |
| 2001 | 0.35 | | 0.39 | 0.39 | 0.35 | 0.28 | 0.21 | 0.22 | 0.29 | 0.35 | 0.38 | 0.35 | 0.29 | 0.25 |  |  |
| 2002 | 0.35 | | 0.39 | 0.39 | 0.36 | 0.28 | 0.21 | 0.22 | 0.28 | 0.35 | 0.38 | 0.35 | 0.26 | 0.24 | 0.39 |  |
| 2003 | 0.34 | | 0.39 | 0.39 | 0.35 | 0.28 | 0.21 | 0.22 | 0.28 | 0.33 | 0.34 | 0.30 | 0.21 | 0.19 | 0.28 | 0.34 |

2000 WG : only a 1999 revised assessment AGE RANGE 1-13+ - recruitment at age 1 - Fbar(3-8)

**Remarks:** 1992 Working Group used Laurec/Shepherd shrunk (0.2).

Discards excluded. Revision of the whole French and Spanish database in 1996

1998 WG: Constant q model

**Stock: Anglerfish *L. piscatorius* in Sub-areas VII and VIII**

# Assessment Quality Control Diagram 2

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Recruitment (age 0 until 2000 age 1 after ) Unit: ‘000s | | | | | | | | | | | | | | | |
| Year class | | | | | | | | | | | | | | | |
| Date of assessment | 1988 | | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
| 1989 |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990 |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | 7.2 | | 3.4 | (3.1) | (5.4) |  |  |  |  |  |  |  |  |  |  |  |
| 1993 | 10.9 | | 11.6 | 15.5 | 15.0 | (12.6) |  |  |  |  |  |  |  |  |  |  |
| 1994 | 9.6 | | 12.9 | 25.2 | 21.6 | 15.9 | (13.1) |  |  |  |  |  |  |  |  |  |
| 1995 | 9.4 | | 14.4 | 32.3 | 29.6 | 28.8 | 33.2 | (42.6) |  |  |  |  |  |  |  |  |
| 1996 | 9.9 | | 17.6 | 27.1 | 29.7 | 37.5 | 45.3 | 34.3 | (37.7) |  |  |  |  |  |  |  |
| 1997 | 12.9 | | 18.7 | 27.7 | 30.3 | 32.7 | 34.0 | 30.8 | 26.4 | (18.3) |  |  |  |  |  |  |
| 1998 | 14.6 | | 20.3 | 28.2 | 30.4 | 33.0 | 25.2 | 18.6 | 17.7 | 13.2 | (19.7) |  |  |  |  |  |
| 1999 | 14.0 | | 19.5 | 26.1 | 26.3 | 25.3 | 19.2 | 13.2 | 12.7 | 16.9 | 12.2 | (11.5) |  |  |  |  |
| 2000 | 13.5 | | 18.5 | 25.7 | 26.3 | 24.7 | 19.0 | 14.1 | 17.7 | 13.6 | 2.2 |  |  |  |  |  |
| 2001 | 10.8 | | 13.1 | 17.2 | 23.1 | 21.9 | 19.1 | 15.2 | 12.5 | 13.0 | 14.7 | 16.5 | 31.4 | (34.1) |  |  |
| 2002 | 10.8 | | 13.2 | 17.3 | 23.0 | 21.8 | 19.0 | 15.6 | 13.1 | 14.2 | 15.8 | 16.6 | 18.4 | 22.3 | (142.0) |  |
| 2003 | 10.9 | | 13.3 | 17.4 | 23.4 | 22.5 | 20.0 | 16.9 | 14.7 | 16.5 | 18.6 | 20.7 | 25.4 | 26.0 | 41.6 | (134.0) |

2000 WG : only a 1999 revised assessment AGE RANGE 1-13+ recruitment at age 1

2003 WG: Substituted by estimate from F-shrinkage with N\*e(Z) correction= 95049

( ) : replaced by GM for predictions

**Remarks:** Discards excluded. Revision of the whole French and Spanish database in 1996

1998 WG: Constant q model

**Stock: Anglerfish *L. piscatorius* in Sub-areas VII and VIII**

# Assessment Quality Control Diagram 3

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Spawning stock biomass (tonnes) | | | | | | | | | | | | | | | | | |
| Year | | | | | | | | | | | | | | | | | |
| Date of assessment | 1989 | | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
| 1989 |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990 |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | 36.6 | | 37.4 | 32.4 | 34.1 | 32.5 | 22.1 |  |  |  |  |  |  |  |  |  |  |  |
| 1993 | 40.8 | | 37.3 | 34.5 | 34.0 | 33.9 | 35.9 | 39.8 |  |  |  |  |  |  |  |  |  |  |
| 1994 | 45.9 | | 41.4 | 36.2 | 32.2 | 30.8 | 33.4 | 40.3 | 47.0 |  |  |  |  |  |  |  |  |  |
| 1995 | 44.2 | | 42.6 | 36.3 | 30.9 | 28.7 | 30.4 | 40.7 | 50.5 | 55.9 |  |  |  |  |  |  |  |  |
| 1996 | 46.0 | | 44.3 | 36.7 | 31.4 | 30.5 | 34.6 | 43.7 | 53.6 | 66.8 | 80.2 |  |  |  |  |  |  |  |
| 1997 | 49.3 | | 47.2 | 39.6 | 36.9 | 37.7 | 43.9 | 50.8 | 55.8 | 68.7 | 79.2 | 85.8 |  |  |  |  |  |  |
| 1998 | 37.5 | | 35.0 | 31.6 | 29.8 | 27.0 | 27.9 | 33.8 | 37.4 | 44.6 | 52.8 | 54.2 | 50.7 |  |  |  |  |  |
| 1999 | 40.5 | | 36.0 | 32.5 | 30.2 | 25.2 | 24.8 | 30.2 | 32.5 | 36.0 | 43.8 | 37.0 | 29.5 | 24.2 |  |  |  |  |
| 2000 | 36.9 | | 35.0 | 37.1 | 33.3 | 31.0 | 35.7 | 45.0 | 51.1 | 51.5 | 57.5 | 56.1 | 52.6 | 50.1 |  |  |  |  |
| 2001 | 34.8 | | 33.2 | 35.1 | 30.7 | 28.7 | 33.5 | 42.1 | 45.0 | 41.3 | 38.6 | 32.4 | 27.7 | 29.0 | 28.3 | 28.9 |  |  |
| 2002 | 34.8 | | 33.1 | 35.1 | 30.7 | 28.7 | 33.5 | 42.1 | 44.9 | 41.2 | 38.6 | 32.4 | 27.7 | 27.6 | 26.4 | 27.1 |  |  |
| 2003 | 40.5 | | 36.6 | 34.3 | 36.4 | 31.7 | 29.8 | 34.4 | 43.4 | 46.6 | 43.2 | 41.8 | 37.8 | 36.3 | 36.7 | 34.9 | 40.5 | 36.6 |

Forecast.

1998 WG: Constant q model, Change in the maturity ogive

2000 WG : only a 1999 revised assessment AGE RANGE 2-14+

**Remarks:** Discards excluded. Revision of the whole French and Spanish database in 1996