**Stock: Anglerfish *L. budegassa* in Divisions VIIb-k and VIIIa,b**

**Assessment Quality Control Diagram 1**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Average F(4-8) until 2000 F(6-10) after | | | | | | | | | | | | | | | | |
| Year | | | | | | | | | | | | | | | | |
| Date of assessment | | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
| 1989 | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990 | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1993 | | 0.22 | 0.17 | 0.17 | 0.21 | 0.21 |  |  |  |  |  |  |  |  |  |  |
| 1994 | | 0.23 | 0.16 | 0.18 | 0.21 | 0.20 | 0.18 |  |  |  |  |  |  |  |  |  |
| 1995 | | 0.21 | 0.16 | 0.15 | 0.18 | 0.20 | 0.17 | 0.18 |  |  |  |  |  |  |  |  |
| 1996 | | 0.16 | 0.15 | 0.16 | 0.18 | 0.20 | 0.17 | 0.16 | 0.18 |  |  |  |  |  |  |  |
| 1997 | | 0.16 | 0.16 | 0.17 | 0.18 | 0.20 | 0.17 | 0.15 | 0.18 | 0.16 |  |  |  |  |  |  |
| 1998 | | 0.19 | 0.19 | .20 | 0.23 | 0.25 | 0.21 | 0.19 | 0.22 | 0.20 | 0.15 |  |  |  |  |  |
| 1999 | | 0.15 | 0.15 | 0.15 | 0.16 | 0.17 | 0.13 | 0.12 | 0.14 | 0.14 | 0.11 | 0.13 |  |  |  |  |
| 2000 | | 0.22 | 0.29 | 0.33 | 0.30 | 0.32 | 0.28 | 0.20 | 0.25 | 0.26 | 0.24 | 0.21 |  |  |  |  |
| 2001 | | 0.21 | 0.29 | 0.31 | 0.28 | 0.30 | 0.26 | 0.18 | 0.24 | 0.25 | 0.24 | 0.24 | 0.27 | 0.23 |  |  |
| 2002 | | 0.21 | 0.28 | 0.30 | 0.28 | 0.30 | 0.26 | 0.19 | 0.24 | 0.26 | 0.26 | 0.28 | 0.31 | 0.29 | 0.20 |  |
| 2003 | | 0.21 | 0.28 | 0.30 | 0.28 | 0.30 | 0.26 | 0.19 | 0.24 | 0.26 | 0.25 | 0.27 | 0.30 | 0.28 | 0.19 | 0.23 |

2000 WG : only a 1999 revised assessment AGE RANGE 2-14+ - recruitment at age 2 - Fbar(6-10)

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

1998 WG: Constant q model

**Stock: Anglerfish *L. budegassa* in Divisions VIIb-k and VIIIa,b**

# Assessment Quality Control Diagram 2

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Recruitment (age 1 until 2000 age 2 after) Unit: ‘000s | | | | | | | | | | | | | | | |
| Year class | | | | | | | | | | | | | | | |
| Date of assessment | 1989 | | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
| 1989 |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990 |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1992 |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1993 | 13.0 | | 13.0 | 14.1 | 15.1 | 15.1 |  |  |  |  |  |  |  |  |  |  |
| 1994 | 13.7 | | 9.7 | 8.3 | 12.7 | 16.3 | 16.3 |  |  |  |  |  |  |  |  |  |
| 1995 | 15.4 | | 12.9 | 14.1 | 18.4 | 15.9 | 15.9 | 15.9 |  |  |  |  |  |  |  |  |
| 1996 | 18.1 | | 18.6 | 22.2 | 22.7 | 12.5 | 16.1 | 15.0 | 18.1 |  |  |  |  |  |  |  |
| 1997 | 19.4 | | 20.7 | 21.0 | 18.0 | 19.9 | 22.2 | 19.0 | 17.3 | 19.2 |  |  |  |  |  |  |
| 1998 | 18.0 | | 18.2 | 18.8 | 19.5 | 23.0 | 22.7 | 8.7 | 5.8 | 17.0 | 17.0 |  |  |  |  |  |
| 1999 | 23.8 | | 22.9 | 22.7 | 21.9 | 24.7 | 24.3 | 20.0 | 17.9 | 10.7 | 21.5 | 21.5 |  |  |  |  |
| 2000 | 16.8 | | 17.0 | 19.1 | 23.0 | 22.9 | 19.9 | 8.3 | 17.9 | 17.9 | 17.9 | 17.9 |  |  |  |  |
| 2001 | 17.4 | | 18.0 | 16.8 | 15.9 | 16.5 | 16.1 | 13.6 | 12.9 | 12.4 | 11.1 | 11.1 | 11.8 | 14.8 |  |  |
| 2002 | 16.0 | | 14.5 | 14.0 | 13.6 | 11.6 | 12.1 | 11.7 | 12.2 | 17.0 | 27.4 | 15.2 | 15.2 | 15.2 | 15.2 |  |
| 2003 | 16.2 | | 14.5 | 14.2 | 14.0 | 12.1 | 12.4 | 13.0 | 14.4 | 21.1 | 42.5 | 45.8 | 35.0 | 17.3 | 17.3 | 17.3 |

recruitment as GM.

Vigo fleet estimate at age 2 in 1998 reduced by Z

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

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

1998 WG: Constant q model

**Stock: Anglerfish *L. budegassa* in Divisions VIIb-k and VIIIa,b**

# 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 |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1993 | 42.4 | | 37.9 | 36.2 | 34.2 | 30.6 | 27.7 | 25.6 |  |  |  |  |  |  |  |  |  |  |
| 1994 | 45.1 | | 35.1 | 39.6 | 40.1 | 32.9 | 30.9 | 29.3 | 28.1 |  |  |  |  |  |  |  |  |  |
| 1995 | 51.0 | | 45.2 | 43.6 | 40.9 | 33.0 | 32.3 | 32.0 | 32.0 | 30.1 |  |  |  |  |  |  |  |  |
| 1996 | 50.0 | | 47.4 | 46.7 | 44.5 | 33.9 | 34.8 | 35.3 | 35.5 | 35.7 | 35.5 |  |  |  |  |  |  |  |
| 1997 | 47.9 | | 45.1 | 44.5 | 42.4 | 33.2 | 34.7 | 32.7 | 37.1 | 38.1 | 40.0 | 41.3 |  |  |  |  |  |  |
| 1998 | 26.6 | | 23.9 | 22.7 | 20.3 | 14.9 | 15.7 | 13.3 | 16.2 | 20.4 | 20.9 | 19.1 | 18.0 |  |  |  |  |  |
| 1999 | 36.1 | | 34.2 | 32.2 | 33.0 | 24.1 | 25.8 | 23.3 | 28.4 | 35.2 | 42.9 | 43.1 | 42.1 | 40.6 |  |  |  |  |
| 2000 | 25.2 | | 21.9 | 20.4 | 19.4 | 16.6 | 16.6 | 23.1 | 22.0 | 20.8 | 23.6 | 24.3 | 24.7 | 25.2 |  |  |  |  |
| 2001 | 25.8 | | 23.0 | 21.3 | 20.6 | 18.2 | 18.8 | 26.6 | 24.4 | 21.6 | 23.9 | 24.4 | 21.7 | 21.0 | 20.1 | 19.2 |  |  |
| 2002 | 30.0 | | 27.1 | 25.4 | 25.0 | 22.1 | 22.8 | 32.5 | 27.9 | 24.2 | 25.7 | 25.1 | 22.4 | 23.1 | 23.1 | 22.6 | 22.8 |  |
| 2003 | 30.2 | | 27.3 | 25.7 | 25.2 | 22.2 | 23.0 | 32.7 | 28.2 | 24.5 | 26.3 | 25.8 | 23.4 | 24.5 | 23.8 | 25.5 | 29.0 | 33.7 |

Forecast.

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

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

Maturity ogivecorrected

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