**Stock: Sole in Divisions VIIIa,b**

**Assessment Quality Control Diagram 1**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Average F(2-6,u) | | | | | | | | | | | | | | |
| Date of assessment | Year | | | | | | | | | | | | | |
|  | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
| 1989 | 0.53 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990 | 0.58 | 0.69 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 | 0.46 | 0.48 | 0.53 |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | 0.42 | 0.49 | 0.45 | 0.41 |  |  |  |  |  |  |  |  |  |  |
| 1993 | 0.40 | 0.47 | 0.43 | 0.39 | 0.48 |  |  |  |  |  |  |  |  |  |
| 1994 | 0.42 | 0.50 | 0.46 | 0.42 | 0.52 | 0.53 |  |  |  |  |  |  |  |  |
| 1995 | 0.43 | 0.51 | 0.47 | 0.42 | 0.49 | 0.47 | 0.61 |  |  |  |  |  |  |  |
| 1996 | 0.42 | 0.50 | 0.45 | 0.40 | 0.47 | 0.44 | 0.56 | 0.64 |  |  |  |  |  |  |
| 1997 | 0.41 | 0.49 | 0.45 | 0.40 | .047 | 0.43 | 0.54 | 0.51 | 0.47 |  |  |  |  |  |
| 1998 | 0.40 | 0.49 | 0.43 | 0.37 | 0.52 | 0.46 | 0.61 | 0.43 | 0.41 | 0.51 |  |  |  |  |
| 1999 | 0.40 | 0.47 | 0.42 | 0.36 | 0.49 | 0.42 | 0.51 | 0.46 | 0.40 | 0.50 | 0.43 |  |  |  |
| 2000 | 0.40 | 0.47 | 0.42 | 0.36 | 0.48 | 0.42 | 0.51 | 0.47 | 0.45 | 0.52 | 0.44 | Not estimated |  |  |
| 2001 | 0.40 | 0.49 | 0.43 | 0.36 | 0.51 | 0.44 | 0.55 | 0.51 | 0.48 | 0.57 | 0.53 | 0.63 | 0.61 |  |
| 2002 | 0.39 | 0.48 | 0.43 | 0.36 | 0.50 | 0.44 | 0.55 | 0.50 | 0.48 | 0.57 | 0.55 | 0.60 | 0.67 | 0.74 |

**Remarks:** Prior to 1992, assessment did not include discards. Catch analysis in 2000 does not include 1999 catches.

**Stock: Sole in Divisions VIIIa,b**

**Assessment Quality Control Diagram 2**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Recruitment (age 0)\* Unit: Millions | | | | | | | | | | | | | | |
| Date of assessment | Year class | | | | | | | | | | | | | |
|  | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
| 1989 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | 44.6 | 50.6 | 50.6 | 50.6 |  |  |  |  |  |  |  |  |  |  |
| 1993 | 48.3 | 45.5 | 50.2 | 50.2 | 50.2 |  |  |  |  |  |  |  |  |  |
| 1994 | 51.9 | 57.2 | 34.1 | 30.3 | (49.2) | (49.2) |  |  |  |  |  |  |  |  |
| 1995 | 55.2 | 62.1 | 38.5 | 41.8 | 15.1 | (49.8) | (49.8) |  |  |  |  |  |  |  |
| 1996 | 56.2 | 61.7 | 39.5 | 40.8 | 21.7 | 38.3 | (46.1) | (46.1) |  |  |  |  |  |  |
| 1997 | 57.1 | 61.2 | 41.5 | 41.5 | 41.9 | 49.5 | 72.4 | (49.6) | (49.6) |  |  |  |  |  |
| 1998 | 39.9 | 40.7 | 28.9 | 33.5 | 34.4 | 34.5 | 28.0 | 22.8 | (35.1) | (35.1) |  |  |  |  |
| 1999 | 43.1 | 42.7 | 29.2 | 30.9 | 28.1 | 37.4 | 29.3 | 29.4 | (34.5) | (34.5) | (34.5) |  |  |  |
| 2000 | 43.4 | 42.2 | 28.8 | 30.1 | 27.8 | 39.0 | 30.0 | 27.3 | (30.9) | (30.9) | (30.9) | (30.9) |  |  |
| 2001 | 41.9 | 42.3 | 41.7 | 28.6 | 29.7 | 26.8 | 34.2 | 27.8 | 24.4 | 22.3 | 17.7 | (26.0) | (26.0) |  |
| 2002 | 41.9 | 42.3 | 41.7 | 28.7 | 29.9 | 27.0 | 33.7 | 27.3 | 24.7 | 25.1 | 24.1 | 14.8 | (25.6) | (25.6) |

**Remarks:** Prior to 1992, assessment did not include discards. ( ) = GM. \*Recruitmemt change to age 1 in 1998. Catch analysis in 2000 does not include 1999 catches.

**Stock: Sole in Divisions VIIIa,b**

# Assessment Quality Control Diagram 3

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Spawning stock biomass ('000s tonnes) | | | | | | | | | | | | | | | | |
| Date of assessment | Year | | | | | | | | | | | | | | | |
|  | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
| 1989 | 10.6 | 9.9 | 9.2 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990 | 9.3 | 8.3 | 7.7 | 7.4 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 | 12.6 | 11.3 | 11.0 | 10.5 | 10.2 |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | 13.3 | 13.3 | 14.0 | 14.1 | 14.7 | 15.2 |  |  |  |  |  |  |  |  |  |  |
| 1993 | 14.0 | 13.7 | 14.1 | 14.2 | 13.4 | 13.2 | 13.0 |  |  |  |  |  |  |  |  |  |
| 1994 | 13.2 | 12.8 | 13.0 | 13.8 | 14.6 | 12.7 | 10.7 | 11.7 |  |  |  |  |  |  |  |  |
| 1995 | 12.9 | 12.5 | 13.0 | 14.3 | 16.0 | 14.4 | 12.8 | 8.8 | 9.1 |  |  |  |  |  |  |  |
| 1996 | 13.3 | 13.0 | 13.6 | 14.9 | 16.5 | 15.0 | 13.1 | 9.7 | 8.7 | 8.9 |  |  |  |  |  |  |
| 1997 | 13.5 | 13.2 | 13.7 | 15.1 | 16.8 | 15.5 | 13.7 | 12.9 | 15.01 | 18.0 | 18.0 |  |  |  |  |  |
| 1998 | 13.3 | 13.1 | 13.8 | 15.1 | 15.7 | 14.7 | 14.3 | 14.4 | 14.9 | 13.6 | 12.2 | 12.8 |  |  |  |  |
| 1999 | 13.5 | 13.4 | 14.2 | 16.0 | 17.1 | 16.2 | 14.8 | 14.2 | 15.2 | 13.9 | 13.5 | 13.8 | 14.1 |  |  |  |
| 2000 | 13.4 | 13.4 | 14.1 | 16.0 | 17.1 | 16.1 | 14.6 | 13.6 | 14.1 | 14.0 | 12.8 | 12.6 | 12.1 | 12.3 |  |  |
| 2001 | 13.7 | 13.7 | 14.6 | 16.2 | 16.5 | 15.8 | 14.1 | 13.3 | 12.8 | 12.5 | 10.3 | 9.3 | 7.8 | 7.8 | 8.1 |  |
| 2002 | 14.0 | 14.0 | 14.8 | 16.3 | 16.6 | 15.8 | 14.1 | 13.4 | 12.9 | 12.4 | 10.5 | 10.1 | 8.1 | 6.6 | 6.7 | 7.0 |

Forecast.

**Remarks:** Prior to 1992, assessment did not include discards. Forecast from 1999 in 2000 assessment because catch analysis in 2000 does not include 1999 catches.