**Stock: Sandeel in Division VIa**

**Assessment Quality Control Diagram 1**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Average F(1-3,u) | | | | | | | | | | | | | | |
| Date of assessment | Year | | | | | | | | | | | | | |
|  | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
| 1989 | 0.279 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990 | 0.124 | 0.115 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 | 0.16 | 0.11 | 0.08 |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | 0.18 | 0.14 | 0.09 | 0.05 |  |  |  |  |  |  |  |  |  |  |
| 1993 | 0.15 | 0.16 | 0.10 | 0.04 | 0.01 |  |  |  |  |  |  |  |  |  |
| 1994 | 0.09 | 0.10 | 0.07 | 0.03 | 0.01 | 0.01 |  |  |  |  |  |  |  |  |
| 1995 | 0.20 | 0.24 | 0.18 | 0.08 | 0.03 | 0.04 | 0.04 |  |  |  |  |  |  |  |
| 1996 | 0.29 | 0.37 | 0.32 | 0.18 | 0.08 | 0.1 | 0.11 | 0.09 |  |  |  |  |  |  |
| 1997 |  |  |  |  |  |  |  |  |  |  |  | |  |  |
| 1998 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1999 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2001 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2002 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

"Hand" tuned. *Ad hoc* tuned. Separable

**Remarks:**

**Stock: Sandeel in Division VIa**

**Assessment Quality Control Diagram 2**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Recruitment (age 0) Unit: '000 million | | | | | | | | | | | | | | |
| Date of assessment | Year class | | | | | | | | | | | | | |
|  | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
| 1989 | 4.3 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990 | 8.7 | 14.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 | 27.0 | 50.1 | - |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | 23.9 | 66.2 | 42.8 | - |  |  |  |  |  |  |  |  |  |  |
| 1993 | 29 | 95 | 96 | 397 | - |  |  |  |  |  |  |  |  |  |
| 1994 | 21 | 60 | 45 | 203 | 140 | - |  |  |  |  |  |  |  |  |
| 1995 | 17 | 47 | 37 | 193 | 130 | 92 | - |  |  |  |  |  |  |  |
| 1996 | 7.8 | 26.6 | 17.3 | 71.2 | 45.1 | 20.7 | 101.3 | 7.4 |  |  |  |  |  |  |
| 1997 |  |  |  |  |  |  |  |  |  |  |  | |  |  |
| 1998 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1999 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2001 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2002 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**Remarks:**

**Stock: Sandeel in Division VIa**

**Assessment Quality Control Diagram 3**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Spawning stock biomass | | | | | | | | | | | | | | | | |
| Date of Assessment | Year | | | | | | | | | | | | | | | |
|  | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
| 1989 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990 | 122.9 | 85.1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 | 144.6 | 112.6 | 91.3 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | 82 | 55 | 61 | 78 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1993 | 95 | 63 | 79 | 98 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1994 | 73 | 45 | 51 | 54 | 136 |  |  |  |  |  |  |  |  |  |  |  |
| 1995 | 66 | 38 | 40 | 42 | 122 | 150 | 193 |  |  |  |  |  |  |  |  |  |
| 1996 | 49 | 24 | 20 | 18 | 43 | 47 | 37 | 67 | 46 |  |  |  |  |  |  |  |
| 1997 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1998 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1999 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2001 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2002 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Forecast.

**Remarks:**