Stock: Haddock in Division VIb (Rockall)

**Assessment Quality Control Diagram 1**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Average F(2-5,u) | | | | | | | | | | | | | | |
| Date of assessment | Year | | | | | | | | | | | | | |
|  | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
| 1990 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | 1.01 | 0.85 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1993 | 0.74 | 0.60 | 0.73 |  |  |  |  |  |  |  |  |  |  |  |
| 1994 | 0.79 | 0.65 | 0.71 | 0.58 |  |  |  |  |  |  |  |  |  |  |
| 1995 | 0.85 | 0.71 | 0.77 | 0.70 | 0.71 |  |  |  |  |  |  |  |  |  |
| 1996 | 0.35 | 0.70 | 0.75 | 0.66 | 0.58 | 0.56 |  |  |  |  |  |  |  |  |
| 1997 | 0.85 | 0.68 | 0.73 | 0.64 | 0.55 | 0.50 | 0.63 |  |  |  |  |  |  |  |
| 1998 | 0.81 | 0.67 | 0.73 | 0.69 | 0.52 | 0.39 | 0.48 | 0.62 |  |  |  |  |  |  |
| 1999 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2000 | 0.83 | 0.68 | 0.74 | 0.69 | 0.53 | 0.38 | 0.38 | 0.31 | 0.31 | 0.52 |  |  |  |  |
| 2001 | 0.51 | 0.54 | 0.58 | 0.42 | 0.40 | 0.40 | 0.39 | 0.30 | 0.29 | 0.38 | 0.50 |  |  |  |
| 2002 | 0.45 | 0.50 | 0.52 | 0.37 | 0.37 | 0.38 | 0.39 | 0.30 | 0.30 | 0.43 | 0.63 | 0.58 |  |  |
| 2003 | 0.45 | 0.50 | 0.52 | 0.37 | 0.36 | 0.37 | 0.39 | 0.30 | 0.30 | 0.43 | 0.63 | 0.50 | 0.87 |  |
| 2004 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**Remarks:Stock: Haddock in Division VIb (Rockall)**

**Assessment Quality Control Diagram 2**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Recruitment (age 1) Unit: millions | | | | | | | | | | | | | | |
| Date of assessment | Year class | | | | | | | | | | | | | |
|  | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
| 1990 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | 37 (VPA)  14 (RCT3) | 20 | 20 |  |  |  |  |  |  |  |  |  |  |  |
| 1993 | 27 | 27 | 15 | 15 |  |  |  |  |  |  |  |  |  |  |
| 1994 | 23 | 25 | 18 | 16 | 16 |  |  |  |  |  |  |  |  |  |
| 1995 | 24 | 25 | 26 | 24 | 20 | 21 |  |  |  |  |  |  |  |  |
| 1996 | 25 | 25 | 29 | 24 | 5 | 25 | 24 |  |  |  |  |  |  |  |
| 1997 | 25 | 26 | 30 | 26 | 7 | 22 | 20 | 28 |  |  |  |  |  |  |
| 1998 | 25 | 27 | 35 | 31 | 12 | 16 | 13 | 20 | 26 |  |  |  |  |  |
| 1999 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2000 | 25 | 27 | 35 | 39 | 21 | 18 | 12 | 10 | 9 | 13 | 20 |  |  |  |
| 2001 | 28 | 26 | 33 | 39 | 19 | 21 | 13 | 12 | 9 | 11 | 7 | 17 |  |  |
| 2002 | 30 | 27 | 33 | 40 | 19 | 21 | 11 | 12 | 7 | 8 | 2 | 9 | 17 |  |
| 2003 | 30 | 27 | 33 | 40 | 19 | 21 | 11 | 11 | 10 | 6 | 4 | 9 | 22 |  |

Geometric mean.

RCT3 estimate

**Remarks:**

**Stock: Haddock in Division VIb (Rockall)**

**Assessment Quality Control Diagram 3**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Spawning stock biomass ('000 t) | | | | | | | | | | | | | | | | |
| Date of assessment | Year | | | | | | | | | | | | | | | |
|  | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
| 1990 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | 5.4 | 4.8 | 4.2 | 4.4 | 6.0 |  |  |  |  |  |  |  |  |  |  |  |
| 1993 | 7.0 | 6.4 | 8.4 | 10.3 | 10.8 | 8.0 |  |  |  |  |  |  |  |  |  |  |
| 1994 | 6.9 | 6.3 | 7.3 | 10.2 | 9.7 | 8.8 | 8.4 |  |  |  |  |  |  |  |  |  |
| 1995 | 6.3 | 5.8 | 7.1 | 10.3 | 12.1 | 13.9 | 12.5 | 11.8 |  |  |  |  |  |  |  |  |
| 1996 | 6.3 | 5.9 | 7.3 | 10.7 | 13.5 | 13.1 | 9.5 | 11.4 | 13.4 |  |  |  |  |  |  |  |
| 1997 | 6.4 | 5.9 | 7.4 | 11.0 | 14.0 | 14.1 | 10.1 | 10.1 | 11.3 | 13.1 |  |  |  |  |  |  |
| 1998 | 6.9 | 6,1 | 7.5 | 11.2 | 15.6 | 16.9 | 14.6 | 10.1 | 8.4 | 9.1 | 11.1 |  |  |  |  |  |
| 1999 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2000 | 6.7 | 6.0 | 7.4 | 11.0 | 15.4 | 19.0 | 19.6 | 15.0 | 13.4 | 10.5 | 7.0 | 6.3 | 8.2 |  |  |  |
| 2001 | 8.0 | 9.8 | 10.0 | 12.9 | 16.4 | 19.5 | 18.3 | 14.7 | 14.1 | 10.7 | 8.1 | 6.1 | 4.9 | 5.7 |  |  |
| 2002 | 8.7 | 11.5 | 11.1 | 14.0 | 17.4 | 20.3 | 18.8 | 14.9 | 13.7 | 10.5 | 7.3 | 4.0 | 2.3 | 2.8 | 4.8 |  |
| 2003 | 9 | 12 | 11 | 14 | 17 | 20 | 19 | 15 | 14 | 10 | 8 | 4 | 4 |  |  |  |

Forecast.

**Remarks:**