**Stock: Herring in the North Irish Sea (Manx plus Mourne herring)**

**Assessment Quality Control Diagram 1**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Average F(2-6,u) | | | | | | | | | | | | | | |
| Date of assessment | Year | | | | | | | | | | | | | |
|  | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | |
| 1989 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |
| 1990 | 0.20 |  |  |  |  |  |  |  |  |  |  |  |  |  | |
| 1991 | 0.18 | 0.22 |  |  |  |  |  |  |  |  |  |  |  |  | |
| 1992 | 0.18 | 0.22 | 0.15 |  |  |  |  |  |  |  |  |  |  |  | |
| 1993 | no | assessment | undertaken |  |  |  |  |  |  |  |  |  |  |  | |
| 1994 | no | assessment | undertaken |  |  |  |  |  |  |  |  |  |  |  | |
| 1995 | no | assessment | undertaken |  |  |  |  |  |  |  |  |  |  |  | |
| 1996 | 0.20 | 0.24 | 0.18 | 0.24 | 0.16 | 0.17 | 0.13 |  |  |  |  |  |  |  | |
| 1997 | no | assessment | undertaken |  |  |  |  |  |  |  |  |  |  |  | |
| 1998 | 0.28 | 0.37 | 0.29 | 0.41 | 0.31 | 0.41 | 0.38 | 0.39 | 0.40 |  |  |  |  |  | |
| 1999 | 0.28 | 0.36 | 0.28 | 0.39 | 0.29 | 0.37 | 0.33 | 0.35 | 0.54 | 0.35 |  |  |  |  | |
| 2000 | 0.24 | 0.30 | 0.23 | 0.33 | 0.23 | 0.28 | 0.28 | 0.28 | 0.41 | 0.39 | 0.26 |  |  |  | |
| 2001 | 0.31 | 0.40 | 0.32 | 0.46 | 0.35 | 0.45 | 0.40 | 0.39 | 0.56 | 0.61 | 0.38 | 0.15 |  |  | |
| 2002 | 0.30 | 0.39 | 0.31 | 0.44 | 0.33 | 0.42 | 0.36 | 0.37 | 0.55 | 0.59 | 0.35 | 0.13 | 0.36 |  | |
| 2003 | 0.31 | 0.41 | 0.32 | 0.46 | 0.35 | 0.43 | 0.36 | 0.37 | 0.56 | 0.59 | 0.33 | 0.13 | 0.36 | 0.15 | |

**Remarks:**

**Stock: Herring in the North Irish Sea (Manx plus Mourne herring)**

**Assessment Quality Control Diagram 2**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Recruitment (age 1) Unit: millions | | | | | | | | | | | | | | | | |
| Date of assessment | | Year class | | | | | | | | | | | | | | |
|  | 1987 | | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | |
| 1989 | 144 | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |
| 1990 | 123 | | 184 |  |  |  |  |  |  |  |  |  |  |  |  |  | |
| 1991 | 195 | | 227 | 192 |  |  |  |  |  |  |  |  |  |  |  |  | |
| 1992 | no | | assessment | undertaken |  |  |  |  |  |  |  |  |  |  |  |  | |
| 1993 | no | | assessment | undertaken |  |  |  |  |  |  |  |  |  |  |  |  | |
| 1994 | no | | assessment | undertaken |  |  |  |  |  |  |  |  |  |  |  |  | |
| 1995 | no | | assessment | undertaken |  |  |  |  |  |  |  |  |  |  |  |  | |
| 1996 | 342 | | 145 | 180 | 173 | 124 | 279 | 169 | 534 |  |  |  |  |  |  |  | |
| 1997 | no | | assessment | undertaken |  |  |  |  |  |  |  |  |  |  |  |  | |
| 1998 | 279 | | 113 | 154 | 113 | 74 | 185 | 60 | 183 | 134 | 97 |  |  |  |  |  | |
| 1999 | 282 | | 118 | 157 | 119 | 69 | 208 | 64 | 207 | 127 | 122 | 113 |  |  |  |  | |
| 2000 | 299 | | 136 | 169 | 128 | 76 | 220 | 75 | 242 | 148 | 82 | 160 | 157 |  |  |  | |
| 2001 | 266 | | 108 | 145 | 111 | 66 | 190 | 63 | 181 | 124 | 92 | 132 | 214 | 107 |  |  | |
| 2002 | 268 | | 110 | 147 | 115 | 67 | 194 | 66 | 200 | 116 | 94 | 139 | 258 | 115 | 153 |  | |
| 2003 | 263 | | 108 | 145 | 113 | 67 | 195 | 65 | 208 | 134 | 102 | 141 | 229 | 114 | 119 | 219 | |

Geometric mean 1984-1988.

**Remarks:**

**Stock: Herring in the North Irish Sea (Manx plus Mourne herring)**

**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 | 2005 |
| 1989 | 17 | | 18 | N/A |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990 | 20 | | 18 | 20 | 22 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 | 23 | | 22 | 24 | 25 | 26 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | 22 | | 23 | 25 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1993 | no | | assessment | undertaken |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1994 | no | | assessment | undertaken |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1995 | no | | assessment | undertaken |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1996 | 22 | | 21 | 20 | 17 | 23 | 24 | 33 | 38 | 40 | 40 |  |  |  |  |  |  |  |
| 1997 | no | | assessment | undertaken |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1998 | 16 | | 14 | 12 | 9 | 11 | 9 | 9 | 8 | 8 | 10 | 10 | 10 |  |  |  |  |  |
| 1999 | 16 | | 15 | 13 | 9 | 12 | 10 | 11 | 10 | 8 | 8 | 8 | 9 | 9 |  |  |  |  |
| 2000 | 18 | | 17 | 16 | 11 | 15 | 13 | 14 | 13 | 11 | 9 | 11 | 14 | 15 | 15 |  |  |  |
| 2001 | 14 | | 13 | 11 | 8 | 10 | 8 | 9 | 9 | 7 | 6 | 8 | 10 | 10 | 12 | 14 |  |  |
| 2002 | 14 | | 13 | 12 | 8 | 11 | 9 | 10 | 9 | 7 | 7 | 10 | 12 | 12 | 14 | 15\* | 16\* |  |
| 2003 | 12 | | 11 | 8 | 7 | 8 | 9 | 10 | 8 | 7 | 8 | 9 | 12 | 10 | 14 | 15 | 15 | 16 |

Forecast at F0.1.; Fsq

**Remarks:** No analytical projection undertaken for 1992 to 1995. 1996, 1998, 1999 projections are only approximate.