**Stock: North Sea sole**

**Assessment Quality Control Diagram 1**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Average F(2-8,u) | | | | | | | | | | | | | | |
| Date of assessment | Year | | | | | | | | | | | | | |
|  | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
| 1989 | 0.55 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990 | 0.58 | 0.53 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 | 0.52 | 0.42 | 0.55 |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | 0.46 | 0.36 | 0.40 | 0.47 |  |  |  |  |  |  |  |  |  |  |
| 1993 | 0.49 | 0.38 | 0.43 | 0.52 | 0.50 |  |  |  |  |  |  |  |  |  |
| 1994 | 0.50 | 0.39 | 0.43 | 0.45 | 0.41 | 0.46 |  |  |  |  |  |  |  |  |
| 1995 | 0.50 | 0.39 | 0.44 | 0.47 | 0.43 | 0.51 | 0.50 |  |  |  |  |  |  |  |
| 1996 | 0.50 | 0.40 | 0.45 | 0.48 | 0.46 | 0.53 | 0.52 | 0.51 |  |  |  |  |  |  |
| 1997 | 0.49 | 0.39 | 0.43 | 0.46 | 0.43 | 0.50 | 0.48 | 0.48 | 0.54 |  |  | |  |  |
| 1998 | 0.50 | 0.39 | 0.43 | 0.47 | 0.45 | 0.53 | 0.52 | 0.54 | 0.63 | 0.51 |  |  |  |  |
| 1999 | 0.50 | 0.39 | 0.43 | 0.47 | 0.45 | 0.53 | 0.53 | 0.55 | 0.65 | 0.54 | 0.54 |  |  |  |
| 2000 | 0.50 | 0.39 | 0.44 | 0.47 | 0.45 | 0.53 | 0.54 | 0.57 | 0.68 | 0.58 | 0.60 | 0.47 |  |  |
| 2001 | 0.50 | 0.39 | 0.43 | 0.47 | 0.45 | 0.53 | 0.53 | 0.56 | 0.66 | 0.55 | 0.56 | 0.47 | 0.46 |  |
| 2002 | 0.51 | 0.40 | 0.43 | 0.47 | 0.45 | 0.53 | 0.54 | 0.57 | 0.69 | 0.60 | 0.63 | 0.56 | 0.60 | 0.52 |

**Remarks:**

**Stock: North Sea sole**

**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 |
| 1989 | 52 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990 | 99 | 15 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 | 125 | 70 | 137 |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | 147 | 51 | 275 | 55 |  |  |  |  |  |  |  |  |  |  |
| 1993 | 137 | 49 | 275 | 56 | 97 |  |  |  |  |  |  |  |  |  |
| 1994 | 185 | 55 | 326 | 71 | 86 | 97 |  |  |  |  |  |  |  |  |
| 1995 | 188 | 63 | 384 | 84 | 51 | 112 | 101 |  |  |  |  |  |  |  |
| 1996 | 181 | 66 | 393 | 75 | 48 | 99 | 49 | 100 |  |  |  |  |  |  |
| 1997 | 184 | 73 | 368 | 80 | 59 | 120 | 39 | 332 | 99 |  |  | |  |  |
| 1998 | 183 | 72 | 360 | 75 | 58 | 105 | 45 | 298 | 112 | 98 |  |  |  |  |
| 1999 | 181 | 72 | 357 | 71 | 58 | 104 | 53 | 342 | 122 | 84 | 97 |  |  |  |
| 2000 | 180 | 72 | 353 | 70 | 57 | 100 | 51 | 336 | 125 | 71 | 99 | 99 |  |  |
| 2001 | 180 | 73 | 352 | 71 | 58 | 99 | 51 | 279 | 139 | 91 | 95 | 100 | 100 |  |
| 2002 | 179 | 71 | 352 | 69 | 57 | 97 | 49 | 279 | 119 | 81 | 121 |  |  | 100 |

Predicted from surveys. GM, To be revised by ACFM

**Remarks:**

# Stock: North Sea sole

**Assessment Quality Control Diagram 3**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Spawning stock biomass ('000 t) | | | | | | | | | | | | | | | | |
| Date of assessment | Year | | | | | | | | | | | | | | | |
|  | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
| 1989 | 27.1 | n/a | n/a |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990 | 29.8 | 69.9 | 58.0 | 46.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 | 34.1 | 67.6 | 56.0 | 47.0 | 37.0 |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | 38.2 | 94.2 | 80.2 | 73.7 | 54.4 | 69.8 |  |  |  |  |  |  |  |  |  |  |
| 1993 | 37.2 | 92.7 | 78.3 | 66.2 | 50.1 | 65.9 | 51.2 |  |  |  |  |  |  |  |  |  |
| 1994 | 36.4 | 95.7 | 85.3 | 87.1 | 60.8 | 85.3 | 67.5 | 72.2 |  |  |  |  |  |  |  |  |
| 1995 | 36.3 | 92.8 | 80.3 | 82.5 | 58.1 | 82.3 | 72.1 | 50.1 | 54.6 |  |  |  |  |  |  |  |
| 1996 | 35.8 | 91.9 | 79.3 | 79.7 | 55.8 | 81.3 | 68.5 | 47.5 | 400 | 30.9 |  |  |  |  |  |  |
| 1997 | 36.4 | 92.4 | 79.9 | 80.3 | 58.2 | 79.7 | 66.5 | 44.9 | 39.9 | 28.2 | 53.9 |  |  |  |  |  |
| 1998 | 36.2 | 91.1 | 78.3 | 78.4 | 56.3 | 76.5 | 62.4 | 40.6 | 33.5 | 26.2 | 51.1 | 47.1 |  |  |  |  |
| 1999 | 36.2 | 90.9 | 78.1 | 77.9 | 55.8 | 75.6 | 60.8 | 39.0 | 31.8 | 25.0 | 55.3 | 47.8 | 36.9 |  |  |  |
| 2000 | 36.2 | 90.7 | 77.7 | 77.4 | 55.4 | 74.7 | 59.5 | 37.5 | 29.8 | 22.7 | 53.6 | 52.5 | 42.0 | 38.2 |  |  |
| 2001 | 36.3 | 90.8 | 77.9 | 77.6 | 55.8 | 74.8 | 59.8 | 37.9 | 29.9 | 22.8 | 45.0 | 46.5 | 39.6 | 35.5 | 34.3 |  |
| 2002 | 35.4 | 90.5 | 78.0 | 77.1 | 55.0 | 73.9 | 58.7 | 36.9 | 28.5 | 21.1 | 43.3 | 40.6 | 32.8 |  |  |  |

Forecast; To be estimated by ACFM

**Remarks:**