Stock: Sole in Division VIIe (Western English Channel)

**Assessment Quality Control Diagram 1**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Average F(3-7,u) | | | | | | | | | | | | | | |
| Date of assessment | Year | | | | | | | | | | | | | |
|  | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
| 1989 | 0.39 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990 | 0.55 | 0.69 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 | 0.41 | 0.47 | 0.48 |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | 0.44 | 0.52 | 0.51 | 0.40 |  |  |  |  |  |  |  |  |  |  |
| 1993 | 0.45 | 0.53 | 0.51 | 0.38 | 0.37 |  |  |  |  |  |  |  |  |  |
| 1994 | 0.42 | 0.47 | 0.42 | 0.29 | 0.28 | 0.34 |  |  |  |  |  |  |  |  |
| 1995 | 0.40 | 0.44 | 0.38 | 0.25 | 0.25 | 0.31 | 0.24 |  |  |  |  |  |  |  |
| 1996 | 0.38 | 0.41 | 0.36 | 0.23 | 0.24 | 0.29 | 0.21 | 0.25 |  |  |  |  |  |  |
| 1997 | 0.40 | 0.44 | 0.39 | 0.26 | 0.26 | 0.33 | 0.25 | 0.31 | 0.23 |  |  |  |  |  |
| 1998 | 0.41 | 0.45 | 0.41 | 0.28 | 0.29 | 0.37 | 0.28 | 0.36 | 0.29 | 0.35 |  |  |  |  |
| 1999 | 0.41 | 0.46 | 0.41 | 0.28 | 0.29 | 0.37 | 0.28 | 0.37 | 0.30 | 0.36 | 0.30 |  |  |  |
| 2000 | 0.43 | 0.47 | 0.42 | 0.28 | 0.28 | 0.37 | 0.28 | 0.37 | 0.31 | 0.39 | 0.32 | 0.32 |  |  |
| 2001 | 0.39 | 0.43 | 0.38 | 0.27 | 0.26 | 0.34 | 0.26 | 0.34 | 0.27 | 0.38 | 0.32 | 0.33 | 0.3 |  |
| 2002 | 0.37 | 0.46 | 0.42 | 0.30 | 0.28 | 0.36 | 0.28 | 0.34 | 0.29 | 0.41 | 0.39 | 0.40 | 0.37 | 0.47 |

Average F(3-8). **Remarks:** Age range extended from 1-10+ to 1-12+ in 2001. Mis-allocated landings added in 2002 and database revised from 1986**Stock: Sole in Division VIIe (Western English Channel)**

**Assessment Quality Control Diagram 2**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Recruitment (age 1) Unit: '000s | | | | | | | | | | | | | | |
| Date of assessment | Year class | | | | | | | | | | | | | |
|  | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
| 1989 | 3698 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990 | 3362 | 4902 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 | 3091 | 6000 | 5565 |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | 2176 | 7631 | 5289 | 3913 |  |  |  |  |  |  |  |  |  |  |
| 1993 | 2349 | 7276 | 4610 | 1964 | 3756 |  |  |  |  |  |  |  |  |  |
| 1994 | 2752 | 6902 | 4042 | 3214 | 3708 | 3997 |  |  |  |  |  |  |  |  |
| 1995 | 2980 | 6200 | 3903 | 3295 | 3005 | 3786 | 4057 |  |  |  |  |  |  |  |
| 1996 | 3041 | 6446 | 4166 | 3803 | 2354 | 2660 | 4764 | 3987 |  |  |  |  |  |  |
| 1997 | 2796 | 6391 | 3836 | 3516 | 2086 | 2245 | 4023 | 4676 | 3824 |  |  |  |  |  |
| 1998 | 2572 | 6292 | 3725 | 3219 | 2013 | 2380 | 3998 | 5273 | 3908 | 3774 |  |  |  |  |
| 1999 | 2567 | 6274 | 3569 | 3090 | 2078 | 2391 | 3706 | 3276 | 4165 | 3751 | 3733 |  |  |  |
| 2000 | 2611 | 6210 | 3458 | 3043 | 2035 | 2361 | 3483 | 2944 | 3177 | 3373 | 3613 | 3661 |  |  |
| 2001 | 2664 | 6440 | 3554 | 3195 | 2063 | 2575 | 3392 | 2817 | 3344 | 2829 | 3367 | 3839 | 3779 |  |
| 2002 | 3034 | 7530 | 4158 | 3658 | 2456 | 3272 | 3963 | 3282 | 4148 | 3080 | 4659 | 2449 | 3933 | 4137 |

GM recruitment. **Remarks:** Age range extended from 1-10+ to 1-12+ in 2001; Mis-allocated landings added in 2002 and database revised from 1986**Stock: Sole in Division VIIe (Western English Channel)**

**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 | 3.25 | 3.06 | 2.79 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990 | 2.20 | 1.76 | 1.54 | 1.53 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 | 2.92 | 2.65 | 2.22 | 2.33 | 2.33 |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | 2.57 | 2.24 | 1.92 | 2.63 | 2.80 | 2.60 |  |  |  |  |  |  |  |  |  |  |
| 1993 | 2.49 | 2.25 | 1.96 | 2.59 | 2.90 | 2.80 | 2.70 |  |  |  |  |  |  |  |  |  |
| 1994 | 2.72 | 2.57 | 2.37 | 2.97 | 2.58 | 2.79 | 2.70 | 2.69 |  |  |  |  |  |  |  |  |
| 1995 | 2.89 | 2.81 | 2.67 | 3.17 | 2.65 | 3.03 | 3.00 | 3.08 | 3.19 |  |  |  |  |  |  |  |
| 1996 | 3.08 | 3.01 | 3.04 | 3.36 | 2.94 | 3.28 | 3.19 | 2.93 | 3.14 | 3.23 |  |  |  |  |  |  |
| 1997 | 2.57 | 2.40 | 2.46 | 2.50 | 2.29 | 2.56 | 2.52 | 2.45 | 2.48 | 2.67 | 2.87 |  |  |  |  |  |
| 1998 | 2.47 | 2.32 | 2.34 | 2.34 | 2.15 | 2.33 | 2.27 | 2.14 | 2.16 | 2.16 | 2.34 | 2.36 |  |  |  |  |
| 1999 | 2.46 | 2.30 | 2.32 | 2.32 | 2.13 | 2.28 | 2.21 | 2.07 | 1.97 | 2.08 | 2.20 | 2.27 | 2.29 |  |  |  |
| 2000 | 2.44 | 2.22 | 2.21 | 2.30 | 2.08 | 2.28 | 2.18 | 2.14 | 1.97 | 1.94 | 2.02 | 2.06 | 2.05 | 2.07 |  |  |
| 2001 | 2.84 | 2.56 | 2.35 | 2.33 | 2.32 | 2.53 | 2.64 | 2.37 | 2.15 | 2.20 | 2.13 | 2.02 | 2.02 | 2.10 | 2.19 |  |
| 2002 | 3.39 | 2.99 | 2.71 | 2.58 | 2.60 | 2.78 | 2.80 | 2.61 | 2.43 | 2.35 | 2.20 | 2.13 | 1.98 | 1.84 | 1.75 | 1.79 |

Forecast. **Remarks :** Mis-allocated landings added in 2002 and database revised from 1986; A new maturity ogive was used in 1997. Age range extended from 1-10+ to 1-12+ in 2001