**Stock: Celtic Sea Sole**

**Assessment Quality Control Diagram 1**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Average F(4-8 ,u) | | | | | | | | | | | | | | |
| Year | | | | | | | | | | | | | | |
| Date of assessment | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
| 1989 | 0.31 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990 | 0.37 | 0.30 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 | 0.50 | 0.43 | 0.44 |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | 0.62 | 0.63 | 0.89 | 0.65 |  |  |  |  |  |  |  |  |  |  |
| 1993 | 0.59 | 0.58 | 0.76 | 0.51 | 0.46 |  |  |  |  |  |  |  |  |  |
| 1994 | 0.56 | 0.54 | 0.68 | 0.43 | 0.40 | 0.50 |  |  |  |  |  |  |  |  |
| 1995 | 0.55 | 0.53 | 0.67 | 0.41 | 0.37 | 0.44 | 0.50 |  |  |  |  |  |  |  |
| 1996 | 0.54 | 0.53 | 0.65 | 0.40 | 0.36 | 0.41 | 0.45 | 0.51 |  |  |  |  |  |  |
| 1997 | 0.54 | 0.53 | 0.65 | 0.40 | 0.37 | 0.43 | 0.49 | 0.58 | 0.48 |  |  |  |  |  |
| 1998 | 0.53 | 0.51 | 0.63 | 0.39 | 0.36 | 0.41 | 0.46 | 0.55 | 0.45 | 0.45 |  |  |  |  |
| 1999 | 0.56 | 0.53 | 0.65 | 0.40 | 0.36 | 0.43 | 0.49 | 0.59 | 0.51 | 0.54 | 0.50 |  |  |  |
| 2000 | 0.56 | 0.55 | 0.69 | 0.43 | 0.39 | 0.46 | 0.51 | 0.62 | 0.56 | 0.63 | 0.64 | 0.58 |  |  |
| 2001 | 0.57 | 0.53 | 0.65 | 0.47 | 0.39 | 0.44 | 0.50 | 0.62 | 0.54 | 0.64 | 0.65 | 0.60 | 0.39 |  |
| 2002 | 0.57 | 0.54 | 0.66 | 0.48 | 0.39 | 0.44 | 0.50 | 0.62 | 0.55 | 0.65 | 0.66 | 0.60 | 0.39 | 0.63 |

**Remarks:**

**Stock: Celtic Sea Sole**

**Assessment Quality Control Diagram 2**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Recruitment (age 1 ) Unit: ‘000s | | | | | | | | | | | | | | |
| Year class | | | | | | | | | | | | | | |
| Date of assessment | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
| 1989 | 4782 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990 | 4693 | 4693 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 | 4320 | 4320 | 4320 |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | 4236 | 4236 | 4236 | 4236 |  |  |  |  |  |  |  |  |  |  |
| 1993 | 7199 | 4218 | 4218 | 4218 | 4218 |  |  |  |  |  |  |  |  |  |
| 1994 | 8489 | 4288 | 4636 | 4673 | 4756 | 4756 |  |  |  |  |  |  |  |  |
| 1995 | 9304 | 4393 | 4626 | 4190 | 4796 | 4796 | 4796 |  |  |  |  |  |  |  |
| 1996 | 9230 | 4591 | 5387 | 4848 | 3501 | 4677 | 4854 | 4854 |  |  |  |  |  |  |
| 1997 | 9001 | 4563 | 5001 | 4981 | 4218 | 3256 | 4430 | 4789 | 4789 |  |  |  |  |  |
| 1998 | 9082 | 4611 | 5023 | 4891 | 3834 | 3058 | 2948 | 8180 | 4696 | 4696 |  |  |  |  |
| 1999 | 8919 | 4507 | 4880 | 4632 | 3813 | 3061 | 3652 | 4827 | 13880 | 4615 | 4615 |  |  |  |
| 2000 | 8891 | 4430 | 4742 | 4503 | 3562 | 3085 | 4064 | 5167 | 4974 | 9000 | 4616 | 4616 |  |  |
| 2001 | 8634 | 4205 | 4478 | 4472 | 3400 | 3140 | 3770 | 5305 | 5422 | 9069 | 5741 | 4567 | 4567 |  |
| 2002 | 8625 | 4201 | 4463 | 4434 | 3396 | 3195 | 3851 | 5164 | 5491 | 11663 | 6802 | 4928 | 4716 | 4716 |

**Remarks:** The data for 1992 and 1993 have been revised.

GM recruitment.

From recent indices.

GM (1971-1989) .

Age 2

Replaced by highest observed value in the time series

**Stock: Celtic Sea Sole**

**Assessment Quality Control Diagram 3**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Spawning stock biomass (tonnes) | | | | | | | | | | | | | | | | |
| Year | | | | | | | | | | | | | | | | |
| Date of assessment | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
| 1989 | 4028 | 4146 | 4242 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990 | 3291 | 3545 | 3700 | 3700 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 | 2540 | 2638 | 2695 | 2575 | 3585 |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | 1887 | 1646 | 2119 | 2475 | 2480 | - |  |  |  |  |  |  |  |  |  |  |
| 1993 | 1903 | 1979 | 1890 | 2347 | 2253 | 2322 | 2333 |  |  |  |  |  |  |  |  |  |
| 1994 | 2038 | 2107 | 1900 | 2428 | 2283 | 2225 | 2077 | 1979 |  |  |  |  |  |  |  |  |
| 1995 | 2048 | 2131 | 1972 | 2647 | 2577 | 2227 | 2282 | 2159 | 2064 |  |  |  |  |  |  |  |
| 1996 | 2495 | 2739 | 2374 | 3150 | 3087 | 2836 | 2912 | 2595 | 2399 | 2330 |  |  |  |  |  |  |
| 1997 | 2147 | 2405 | 2127 | 2481 | 2600 | 2408 | 2412 | 2447 | 2057 | 1944 | 1960 |  |  |  |  |  |
| 1998 | 2183 | 2472 | 2199 | 2574 | 2691 | 2488 | 2506 | 2501 | 2345 | 2002 | 2004 | 2148 |  |  |  |  |
| 1999 | 2115 | 2403 | 2120 | 2493 | 2612 | 2388 | 2349 | 2286 | 2099 | 1792 | 1915 | 2387 | 2725 |  |  |  |
| 2000 | 2094 | 2313 | 2042 | 2385 | 2497 | 2278 | 2237 | 2143 | 1911 | 1643 | 1716 | 1655 | 1893 | 2050 |  |  |
| 2001 | 2032 | 2332 | 2064 | 2410 | 2484 | 2254 | 2185 | 2128 | 1873 | 1610 | 1714 | 1706 | 2155 | 2278 | 2161 |  |
| 2002 | 2023 | 2320 | 2058 | 2398 | 2472 | 2246 | 2171 | 2109 | 1850 | 1599 | 1711 | 1712 | 2360 | 2904 |  |  |

Forecast.

SSB at 1 January

Revised maturity ogive used

**Remarks:**