Stock: Sprat in Sub-divisions 22–32

**Assessment Quality Control Diagram 1**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Average F(3-5,u) | | | | | | | | | | | | | | | | |
| Date of Assessment | Year | | | | | | | | | | | | | | | |
|  | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
| 1990 | 0.12 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 | 0.16 | 0.11 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | 0.22 | 0.16 | 0.18 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1993 | 0.14 | 0.10 | 0.11 | 0.18 |  |  |  |  |  |  |  |  |  |  |  |
| 1994 | 0.23 | 0.12 | 0.14 | 0.19 | 0.13 |  |  |  |  |  |  |  |  |  |  |
| 1995 | 0.23 | 0.13 | 0.14 | 0.22 | 0.12 | 0.23 |  |  |  |  |  |  |  |  |  |
| 1996 | 0.24 | 0.12 | 0.14 | 0.20 | 0.10 | 0.18 | 0.23 |  |  |  |  |  |  |  |  |
| 1997 | 0.24 | 0.13 | 0.15 | 0.22 | 0.12 | 0.22 | 0.28 | 0.32 |  |  |  |  |  |  |  |
| 1998 | 0.24 | 0.13 | 0.15 | 0.22 | 0.12 | 0.23 | 0.32 | 0.32 | 0.55 |  |  |  |  |  |  |
| 1999 | 0.24 | 0.13 | 0.15 | 0.22 | 0.13 | 0.23 | 0.31 | 0.31 | 0.47 | 0.68 |  |  |  |  |  |
| 2000 | 0.25 | 0.14 | 0.16 | 0.23 | 0.13 | 0.24 | 0.33 | 0.31 | 0.42 | 0.45 | 0.45 |  |  |  |  |
| 2001 | 0.22 | 0.12 | 0.14 | 0.21 | 0.11 | 0.21 | 0.29 | 0.27 | 0.36 | 0.38 | 0.40 | 0.35 |  |  |  |
| 2002 | 0.20 | 0.11 | 0.13 | 0.19 | 0.11 | 0.21 | 0.28 | 0.26 | 0.34 | 0.35 | 0.33 | 0.27 | 0.38 |  |  |
| 2003 | 0.22 | 0.12 | 0.14 | 0.20 | 0.12 | 0.22 | 0.30 | 0.28 | 0.36 | 0.37 | 0.36 | 0.29 | 0.34 | 0.44 |  |
| 2004 | 0.21 | 0.12 | 0.14 | 0.21 | 0.11 | 0.21 | 0.29 | 0.28 | 0.36 | 0.36 | 0.33 | 0.25 | 0.26 | 0.31 | 0.44 |

**Remarks:**

**Stock: Sprat in Sub-divisions 22–32**

**Assessment Quality Control Diagram 2**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Recruitment (age 1) Unit: billions | | | | | | | | | | | | | | | | |
| Date of assessment | Year class | | | | | | | | | | | | | | | |
|  | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
| 1990 | 56 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 | 14 | 13 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | 53 | 50 | 54 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1993 | 100 | 131 | 123 | 138 |  |  |  |  |  |  |  |  |  |  |  |
| 1994 | 47 | 53 | 57 | 55 | 19 |  |  |  |  |  |  |  |  |  |  |
| 1995 | 51 | 63 | 78 | 83 | 23 | 67 |  |  |  |  |  |  |  |  |  |
| 1996 | 63 | 76 | 96 | 100 | 34 | 127 | 70 |  |  |  |  |  |  |  |  |
| 1997 | 57 | 64 | 93 | 108 | 41 | 194 | 120 | 25 |  |  |  |  |  |  |  |
| 1998 | 56 | 60 | 86 | 104 | 51 | 196 | 136 | 25 | 90 |  |  |  |  |  |  |
| 1999 | 58 | 59 | 86 | 95 | 56 | 212 | 136 | 35 | 140 | 48 |  |  |  |  |  |
| 2000 | 57 | 57 | 82 | 88 | 58 | 228 | 149 | 38 | 151 | 24 | 113 |  |  |  |  |
| 2001 | 63 | 63 | 89 | 98 | 63 | 261 | 178 | 42 | 176 | 20 | 139 | 139 |  |  |  |
| 2002 | 65 | 65 | 91 | 100 | 65 | 271 | 192 | 48 | 196 | 24 | 115 | 41 | 55 |  |  |
| 2003 | 53 | 62 | 63 | 88 | 95 | 63 | 255 | 172 | 46 | 188 | 32 | 126 | 47 | 95 |  |
| 2004 | 57 | 63 | 64 | 89 | 96 | 63 | 259 | 176 | 52 | 201 | 41 | 134 | 50 | 90 | 164 |

**Remarks:**

**Stock: Sprat in Sub-divisions 22-32**

**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 | 2005 | 2006 |
| 1990 | 770 | 1008 | 1017 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 | 1017 | 1319 | 1538 | 1492 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | 553 | 709 | ? | ? | ? |  |  |  |  |  |  |  |  |  |  |  |  |
| 1993 | 858 | 1278 | 1840 | 2335 | 2750 | 2853 |  |  |  |  |  |  |  |  |  |  |  |
| 1994 | 535 | 688 | 886 | 1024 | 1179 | 1079 | 1027 |  |  |  |  |  |  |  |  |  |  |
| 1995 | 554 | 737 | 992 | 1262 | 1262 | 1156 | 1155 | 1172 |  |  |  |  |  |  |  |  |  |
| 1996 | 602 | 843 | 1186 | 1547 | 1550 | 1314 | 1468 | 1411 | 1340 |  |  |  |  |  |  |  |  |
| 1997 | 532 | 742 | 1002 | 1317 | 1363 | 1189 | 1244 | 1402 | 1043 | 824 |  |  |  |  |  |  |  |
| 1998 | 514 | 722 | 961 | 1241 | 1280 | 1163 | 1247 | 1134 | 827 | 723 | 644 |  |  |  |  |  |  |
| 1999 | 504 | 700 | 937 | 1222 | 1261 | 1175 | 1333 | 1244 | 731 | 704 | 526 | 458 |  |  |  |  |  |
| 2000 | 489 | 696 | 925 | 1201 | 1210 | 1131 | 1404 | 1484 | 1042 | 1124 | 868 | 846 | 839 |  |  |  |  |
| 2001 | 558 | 781 | 1036 | 1315 | 1339 | 1277 | 1592 | 1690 | 1295 | 1257 | 1096 | 1036 | 940 | 885 |  |  |  |
| 2002 | 772 | 1021 | 1318 | 1611 | 1597 | 1683 | 2051 | 2031 | 1516 | 1643 | 1441 | 1370 | 1025 | 871 | 958 |  |  |
| 2003 | 484 | 713 | 957 | 1239 | 1518 | 1509 | 1578 | 1931 | 1909 | 1422 | 1555 | 1423 | 1417 | 1208 | 1246 | 1451 |  |
| 2004 | 517 | 766 | 1001 | 1283 | 1566 | 1537 | 1611 | 1965 | 1958 | 1492 | 1673 | 1593 | 1605 | 1366 | 1229 | 1574 | 1774 |

Forecast. *Status quo* catch.

**Remarks:** in 2002 new maturity ogives, stock rescaled by ca. 25%