**Stock: Cod in Sub-area IV (North Sea), Division VIId (Eastern English Channel) and Division IIIa (Skagerrak)**

**Assessment Quality Control Diagram 1**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Average F(2-8 in 1990-2002; 2-4 in 2003) | | | | | | | | | | | | | | |
| Date of assessment | Year | | | | | | | | | | | | | |
|  | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
| 1990 | 0.83 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 | 0.98 | 0.75 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | 1.00 | 0.78 | 0.93 |  |  |  |  |  |  |  |  |  |  |  |
| 1993 | 0.95 | 0.72 | 0.85 | 0.86 |  |  |  |  |  |  |  |  |  |  |
| 1994 | 0.99 | 0.71 | 0.92 | 0.84 | 0.94 |  |  |  |  |  |  |  |  |  |
| 1995 | 0.99 | 0.72 | 0.93 | 0.86 | 0.91 | 0.85 |  |  |  |  |  |  |  |  |
| 1996 | 0.93 | 0.79 | 0.93 | 0.88 | 0.97 | 0.94 | 0.81 |  |  |  |  |  |  |  |
| 1997 | 0.92 | 0.76 | 0.91 | 0.84 | 0.90 | 0.80 | 0.69 | 0.63 |  |  |  |  |  |  |
| 1998 | 0.92 | 0.76 | 0.92 | 0.83 | 0.89 | 0.80 | 0.65 | 0.73 | 0.63 |  |  |  |  |  |
| 1999 | 0.93 | 0.76 | 0.92 | 0.84 | 0.90 | 0.82 | 0.68 | 0.79 | 0.69 | 0.59 |  |  |  |  |
| 2000 | 0.94 | 0.77 | 0.93 | 0.85 | 0.91 | 0.86 | 0.72 | 0.91 | 0.84 | 0.94 | 0.90 |  |  |  |
| 2001 | 0.94 | 0.77 | 0.93 | 0.85 | 0.92 | 0.86 | 0.72 | 0.92 | 0.86 | 0.99 | 1.06 | 0.83 |  |  |
| 2002 | 0.94 | 0.77 | 0.93 | 0.85 | 0.92 | 0.86 | 0.72 | 0.92 | 0.87 | 1.103 | 1.18 | 1.23 | 0.91 |  |
| 2003 | 1.01 | 0.91 | 0.87 | 0.87 | 0.92 | 0.88 | 0.87 | 0.8 | 0.85 | 1.06 | 1.04 | 1.21 | 0.75 | 0.61 |

**Remarks: 1996 data refer to combined assessment for IIIa+IV+VIId, earlier data to IV only.**

**Stock: Cod in Sub-area IV (North Sea), Division VIId (Eastern English Channel) and Division IIIa (Skagerrak)**

**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 |
| 1990 | 1611 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 | 140 | 216 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | 137 | 155 | 345 |  |  |  |  |  |  |  |  |  |  |  |
| 1993 | 113 | 150 | 410 | 199 |  |  |  |  |  |  |  |  |  |  |
| 1994 | 112 | 143 | 300 | 165 | 406 |  |  |  |  |  |  |  |  |  |
| 1995 | 112 | 142 | 281 | 100 | 465 | 256 |  |  |  |  |  |  |  |  |
| 1996 | 134 | 167 | 312 | 159 | 399 | 248 | 183 |  |  |  |  |  |  |  |
| 1997 | 134 | 169 | 313 | 157 | 392 | 256 | 144 | 528 |  |  |  |  |  |  |
| 1998 | 134 | 169 | 310 | 152 | 350 | 238 | 161 | 557 | 71 |  |  |  |  |  |
| 1999 | 134 | 169 | 308 | 150 | 337 | 237 | 180 | 514 | 67 | 118 |  |  |  |  |
| 2000 | 134 | 168 | 305 | 148 | 325 | 227 | 174 | 428 | 73 | 179 | 202 |  |  |  |
| 2001 | 134 | 168 | 305 | 147 | 324 | 225 | 173 | 422 | 70 | 139 | 215 | 152 |  |  |
| 2002 | 134 | 169 | 305 | 147 | 323 | 226 | 171 | 408 | 58 | 113 | 177 | 74 |  |  |
| 2003 | 135 | 168 | 306 | 148 | 324 | 227 | 172 | 408 | 59 | 111 | 166 | 80 | 168 |  |

As revised by ACFM.

**Remarks: 1996 data refer to combined assessment for IIIa+IV+VIId, earlier data to IV only.**

**Stock: Cod in Sub-area IV (North Sea), Division VIId (Eastern English Channel) and Division IIIa (Skagerrak)**

**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 |
| 1990 | 85 | 87 | 78 | 71 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991 | 73 | 66 | 64 | 66 | 68 |  |  |  |  |  |  |  |  |  |  |  |
| 1992 | 73 | 62 | 56 | 51 | 47 | 52 |  |  |  |  |  |  |  |  |  |  |
| 1993 | 76 | 65 | 60 | 64 | 58 | 62 | 66 |  |  |  |  |  |  |  |  |  |
| 1994 | 76 | 64 | 62 | 61 | 57 | 63 | 69 | 74 |  |  |  |  |  |  |  |  |
| 1995 | 76 | 63 | 62 | 60 | 57 | 59 | 78 | 89 | 103 |  |  |  |  |  |  |  |
| 1996 | 90 | 77 | 70 | 67 | 63 | 63 | 75 | 103 | 124 | 122 |  |  |  |  |  |  |
| 1997 | 91 | 78 | 72 | 70 | 66 | 68 | 81 | 104 | 160 | 176199 | 183228 |  |  |  |  |  |
| 1998 | 91 | 79 | 72 | 70 | 66 | 67 | 77 | 91 | 110 | 136 | 145 | 148 |  |  |  |  |
| 1999 | 91 | 78 | 71 | 69 | 65 | 66 | 73 | 85 | 98 | 105 | 128 | 131 | 116 |  |  |  |
| 2000 | 91 | 78 | 71 | 69 | 65 | 65 | 71 | 77 | 82 | 74 | 66 | 67 | 59 | 57 |  |  |
| 2001 | 91 | 78 | 71 | 69 | 65 | 65 | 71 | 76 | 80 | 72 | 61 | 54 | 55 | 57 | 62 |  |
| 2002 | 91 | 78 | 71 | 69 | 65 | 65 | 71 | 76 | 80 | 70 | 57 | 41 | 30 |  |  |  |
| 2003 | 87 | 80 | 68 | 73 | 64 | 66 | 73 | 77 | 83 | 72 | 59 | 45 | 33 | 39 |  |  |

Forecast. Assuming *status quo*

Forecast. Assuming TAC restricted F in 1997

**Remarks : 1996 data refer to combined assessment for IIIa+IV+VIId, earlier data to IV only.**