

## American plaice in Div. 3LNO

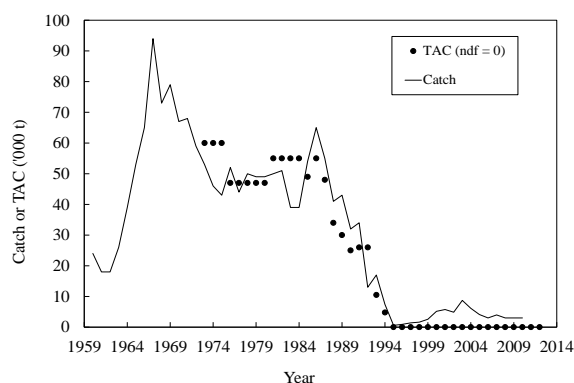
**Recommendation:** SSB was projected to have a <5% probability of reaching  $B_{lim}$  by the start of 2014 when  $F = F_{2010}$  (0.11). Scientific Council therefore recommends that in accordance with the rebuilding plan, there should be no directed fishing on American plaice in Div. 3LNO in 2013 and 2014. Bycatches of American plaice should be kept to the lowest possible level and restricted to unavoidable bycatch in fisheries directing for other species.

**Background:** Historically, American plaice in Div. 3LNO has comprised the largest flatfish fishery in the Northwest Atlantic.

**Fishery and Catches:** In most years the majority of the catch has been taken by offshore otter trawlers. There was no directed fishing in 1994 and there has been a moratorium since 1995. Catches increased after the moratorium until 2003 after which they began to decline. This year, STACFIS only had STATLANT 21A available as estimates of catches in 2011. The inconsistency between the information available to produce catch figures used in the previous years' assessments and that available for the 2011 catches has made it impossible for STACFIS to provide the best assessment for this stock.

| Year | Catch ('000 t) |     | TAC ('000 t) |        |
|------|----------------|-----|--------------|--------|
|      | STACFIS        | 21  | Recommended  | Agreed |
| 2009 | 3.0            | 1.8 | ndf          | ndf    |
| 2010 | 2.9            | 2.0 | ndf          | ndf    |
| 2011 | na             | 1.2 | ndf          | ndf    |
| 2012 |                |     | ndf          | ndf    |

ndf No directed fishing; na Not available.



**Data:** Biomass and abundance data were available from: annual Canadian spring (1985-2011) and autumn (1990-2011) bottom trawl surveys; and EU-Spain surveys in the NAFO Regulatory Area of Div. 3NO (1995-2011). Age data from Canadian bycatch as well as length frequencies from EU-Portugal and EU-Spain bycatch were available for 2011.

**Assessment:** Since STACFIS was not able to estimate total catch, the analytical assessment using the ADAPTive framework could not be updated in 2012.

During the previous assessment in 2011, Scientific Council concluded that:

**Biomass:** Despite the increase in biomass since 1995, the biomass is very low compared to historic levels. SSB declined to the lowest estimated level in 1994 and 1995. SSB has been increasing since then and at the start of 2011 was 34, 000 t.  $B_{lim}$  for this stock is 50 000 t.

**Recruitment:** Estimated recruitment at age 5 indicates that the 2003 year class is comparable to the 1987-1990 year classes but well below the long-term average.

**Fishing mortality:** Fishing mortality on ages 9 to 14 has generally declined since 2001.

**State of the Stock:** During the previous assessment in 2011, Scientific Council concluded that: the stock remains low compared to historic levels and, although SSB is increasing, it is still estimated to be below  $B_{lim}$ . Estimated recruitment at age 5 indicates that the 2003 year class is comparable to the 1987-1990 year classes but well below the long-term average. The 2012 assessment does not indicate a change in the status of the stock, based on last year's analytical model and the 2011 survey results.

**Reference Points:** Based on the 2011 assessment the biomass for this stock is estimated to be below  $B_{lim}$  (50 000 t) and fishing mortality in 2010 was below  $F_{lim}$  (0.3).

**Short Term Considerations:** Simulations were carried out in 2011 to examine the trajectory of the stock under 3 scenarios of fishing mortality:  $F = 0$ ,  $F = F_{2010}$  (0.11), and  $F_{0.1}$  (0.16).

SSB was projected to have a <5% probability of reaching  $B_{lim}$  by the start of 2014 when  $F = F_{2010}$  (0.11).

| F = 0        |    |     |     |
|--------------|----|-----|-----|
| SSB ('000 t) |    |     |     |
|              | p5 | p50 | p95 |
| 2011         | 29 | 33  | 38  |
| 2012         | 36 | 41  | 47  |
| 2013         | 42 | 48  | 56  |
| 2014         | 46 | 53  | 64  |

| F <sub>2010</sub> = 0.11 |    |     |     |                |     |     |
|--------------------------|----|-----|-----|----------------|-----|-----|
| SSB ('000 t)             |    |     |     | Yield ('000 t) |     |     |
|                          | p5 | p50 | p95 | p5             | p50 | p95 |
| 2011                     | 29 | 33  | 37  | 3.2            | 3.6 | 4.1 |
| 2012                     | 33 | 37  | 43  | 3.7            | 4.1 | 4.7 |
| 2013                     | 36 | 41  | 47  | 3.9            | 4.3 | 4.9 |
| 2014                     | 37 | 42  | 49  |                |     |     |

| F <sub>0.1</sub> = 0.16 |    |     |     |                |     |     |
|-------------------------|----|-----|-----|----------------|-----|-----|
| SSB ('000 t)            |    |     |     | Yield ('000 t) |     |     |
|                         | p5 | p50 | p95 | p5             | p50 | p95 |
| 2011                    | 29 | 33  | 37  | 4.5            | 5.1 | 5.8 |
| 2012                    | 32 | 36  | 42  | 5.0            | 5.7 | 6.5 |
| 2013                    | 33 | 38  | 44  | 5.1            | 5.7 | 6.5 |
| 2014                    | 33 | 38  | 45  |                |     |     |

**Special Comment:** Given the low probability of reaching  $B_{lim}$  in the short term, Scientific Council plans to conduct the next full assessment of this stock in 2014.

**Sources of Information:** SCS Doc. 12/4, 5, 8, 9, 14; SCR Doc. 12/6, 12, 17, 33, 34.