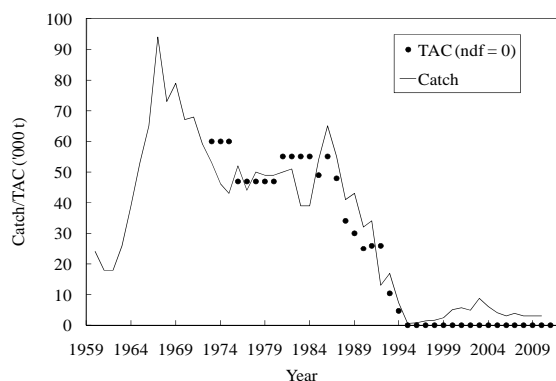


American plaice in Divisions 3LNO

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. Total catch in 2010 was 2 898 t, mainly taken in the Regulatory Area.

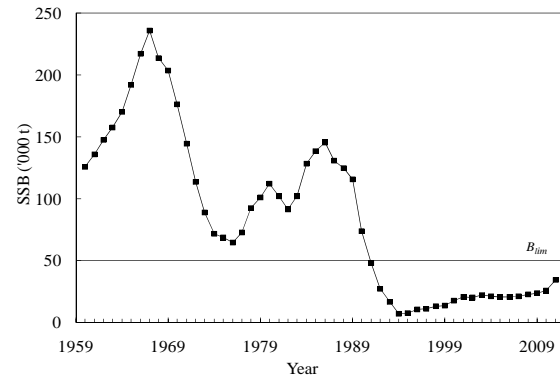
Year	Catch ('000 t)		TAC ('000 t)	
	STACFIS	21	Recommended	Agreed
2008	2.5	1.9	ndf	ndf
2009	3.0	1.8	ndf	ndf
2010	2.9	1.5	ndf	ndf
2011			ndf	ndf
ndf	No directed fishing.			



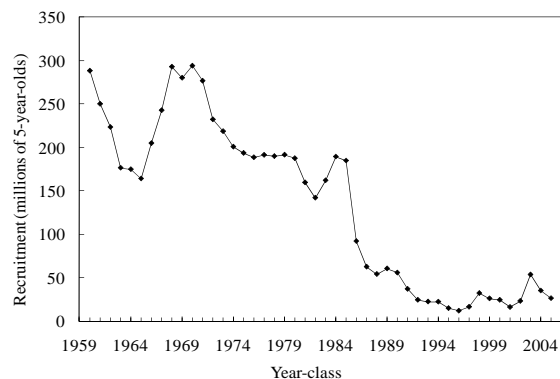
Data: Biomass and abundance data were available from: annual Canadian spring (1985-2010) and autumn (1990-2010) bottom trawl surveys; and EU-Spain surveys in the NAFO Regulatory Area of Div. 3NO (1995-2010). Age data from Canadian bycatch as well as length frequencies from EU-Portugal and EU-Spain bycatch were available for 2010.

Assessment: An analytical assessment using the ADAPtive framework tuned to the Canadian spring, Canadian autumn and the EU-Spain Div. 3NO survey was used. Natural mortality (M) was assumed to be 0.2 on all ages except from 1989-1996, where M was assumed to be 0.53 on all ages.

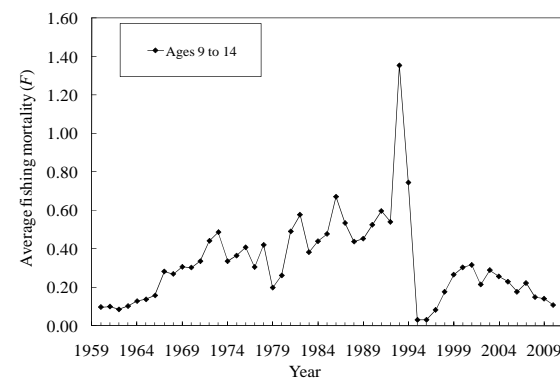
Biomass: Despite the increase in biomass since 1995, the biomass is very low compared to historic levels. SSB declined to the lowest estimated level in 1994 and 1995. SSB has been increasing since then and is currently at 34 000 t. B_{lim} for this stock is 50 000 t.



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.



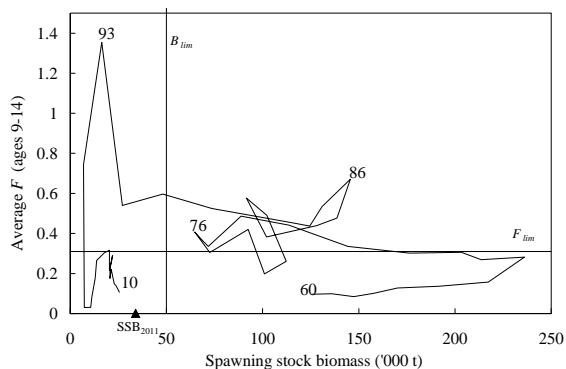
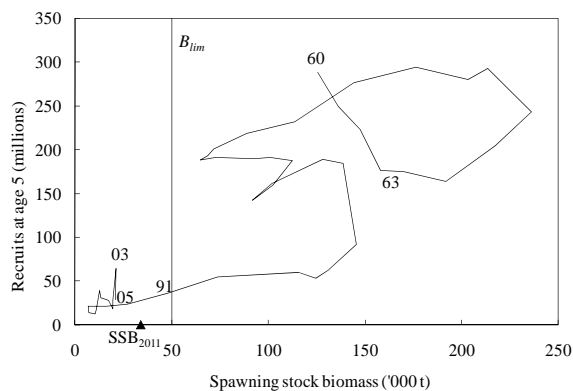
Fishing mortality: Fishing mortality on ages 9 to 14 has generally declined since 2001.



State of the Stock: 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.

Reference Points: An examination of the stock recruit scatter shows that good recruitment has rarely been observed in this stock at SSB below 50 000 t

and this is currently the best estimate of B_{lim} . In 2011 SC adopted an F_{lim} of 0.31 for this stock based on F_{MSY} (see SC VII.1.d.i). The stock is currently below B_{lim} and current fishing mortality is below F_{lim} .



Short term considerations: Simulations were carried out 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). Simulations were limited to a 2-year period. Recruitment was resampled from three sections of the estimated stock recruit scatter, depending on SSB.

SSB is projected to have a 50% probability of reaching B_{lim} by the start of 2014 (i.e. end of 2013) when $F=0$. Although SSB is also projected to increase slowly with $F_{current}$ and $F_{0.1}$ the probability of reaching B_{lim} by the start of 2014 under these scenarios is less than 50%.

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

	$F_{2010} = 0.11$					
	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			

	$F_{0.1} = 0.16$					
	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			

Recommendation: There should be no directed fishing on American plaice in Div. 3LNO in 2012 and 2013. Bycatches of American plaice should be kept to the lowest possible level and restricted to unavoidable bycatch in fisheries directing for other species.

Special Comment: The next full assessment of this stock will be conducted in 2013.

Sources of Information: SCS Doc. 11/4, 5, 7, 11; SCR Doc. 11/5, 19, 32, 37, 39