Redfish in Divisions 3LN

Recommendation: Short term projections (median) of relative biomass, fishing mortality and catch, under $F_{statusquo}$ and a range of F_{msy} multipliers are presented below (*Status quo* catch is assumed for 2012):

	B/Bmsy			
Year	Status quo F	1/6 Fmsy	1/3 Fmsy	2/3 Fmsy
2012	1.470	**1.470**	1.470	1.470
2013	1.514	**1.514**	1.514	1.514
2014	1.554	**1.554**	1.528	1.478
2015	1.588	**1.589**	1.541	1.450
	F/Fmsy			
Year	Status quo F	1/6 Fmsy	1/3 Fmsy	2/3 Fmsy
2012	0.164	**0.164**	0.164	0.164
2013	0.170	**0.169**	0.337	0.675
2014	0.170	**0.169**	0.337	0.675
	Catch			
Year	Status quo F	1/6 Fmsy	1/3 Fmsy	2/3 Fmsy
2012	5768	**5768**	5768	5768
2013	6172	**6113**	12126	23830
2014	6346	**6287**	12277	23397

Although the stock has been increasing, this is a newly reopened fishery, and the response of the stock to fishing is uncertain.

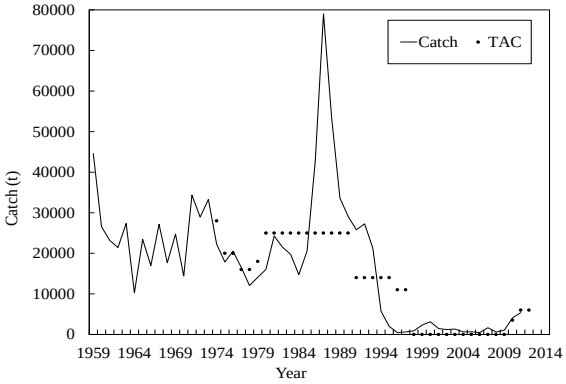
Scientific Council recommends that fishing mortality in 2013 and 2014 should be kept around the current level. Increases of F above $F_{statusquo}$ should be treated with caution.

Background: There are two species of redfish, *Sebastes mentella* and *Sebastes fasciatus*, which occur in Div. 3LN and are managed together as one management unit.

Fishery and Catches: Catches declined to low levels in the early 1990s and have since varied between 450 – 3 000 t. From 1998-2009 a moratorium was in place. Since 1998 catches were taken as by-catch primarily in Greenland halibut fisheries. With the reopening of the fishery in 2010 catches increased in 2010 and 2011 to 4 100 t and 5 395 t.

	Catch ('000 t)		TAC ('000 t)	
Year	STACFIS	21	Recommended	Agreed
2009	1.1	0.3	ndf	ndf
2010	4.1	3.1	3.5	3.5
2011	5.4	5.4	6.0	6.0
2012			6.0	6.0

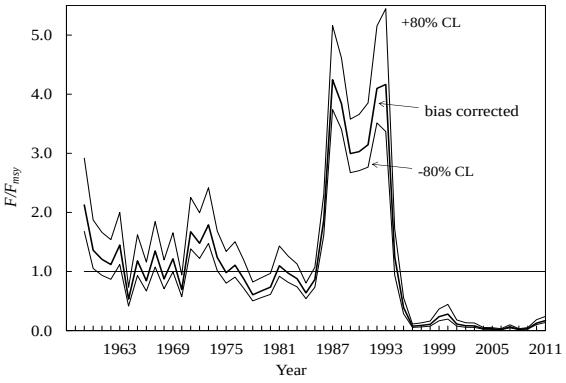
ndf No directed fishing



Data: Catch data since 1959 and data from surveys conducted by Canada, Russian Federation and EU-Spain were available. Length frequencies were available for both commercial catch and surveys.

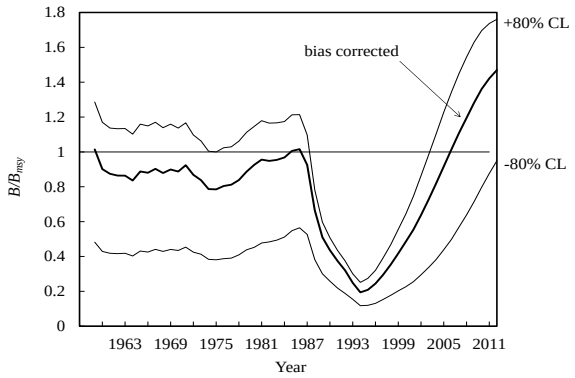
Assessment: An ASPIC model framework, was used to assess the status of the stock. This framework uses a surplus production model to describe stock dynamics.

Fishing Mortality: Fishing mortality has been low since 1995.

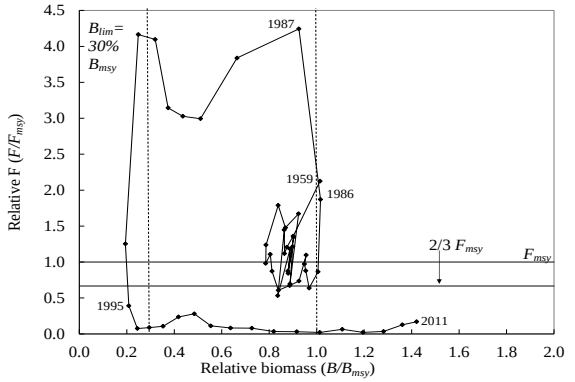


Recruitment: From commercial catch and Canadian survey length data there are signs of recent recruitment of above average year classes to the exploitable stock.

Biomass: Relative biomass was close to B_{msy} for most years up to 1987. Biomass decreased from 1987 to a minimum in 1994. During the moratorium years biomass increased and is now above B_{msy} .



State of the Stock: The biomass of redfish in Div. 3LN is above B_{msy}, while fishing mortality is below F_{msy} . There is a low risk that the stock is below B_{msy}.



Reference Points: The stock is estimated to be well above B_{lim} (30% B_{msy}) and fishing mortality is estimated to be well below F_{lim} (=F_{msy}).

Special Comments: By-catch of species under moratorium in redfish fishery should be kept to the lowest possible level.

The next assessment will be in 2014.

Sources of Information: SCR Doc. 12/14, 32; SCS Doc. 12/5, 6, 8, 9.