



North-East Atlantic Commission

NEA(19)03

Report on the Use of the Framework of Indicators in 2019

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1. At its 2018 Annual Meeting, the North-East Atlantic Commission (NEAC) adopted a multi-annual Decision regarding the salmon fishery in Faroese waters in for 2018 / 2019, 2019 / 2020 and 2020 / 2021 (NEA(18)12rev_final) The Commission also adopted a Framework of Indicators (FWI), developed by ICES, in order to identify if there had been any significant change in previously provided multi-annual management advice for the Faroese salmon fishery. Under the multi-annual Decision, the Commission decided not to set a quota for the salmon fishery in the Faroes Fishery Zone in 2018 / 2019. The Decision would also apply in 2019 / 2020 and 2020 / 2021 unless application of the FWI showed that there has been a significant change in the indicators used and a re-assessment of the catch advice is required.
2. The Commission agreed that each NEAC Party should again nominate a representative to serve on the FWI Working Group in 2017. The representatives appointed were Svein Magnason (Denmark (in respect of the Faroe Islands and Greenland)), Ian Russell (European Union), Peder Fiske (Norway) and Igor Samokhvalov (Russian Federation). Ian Russell served as the Group's Co-ordinator. The Group worked by correspondence to co-ordinate the data collection and apply the FWI, as revised and updated by ICES in 2018, and its report is attached.
3. The Group has concluded that 'the results of the NEAC FWI assessment in 2019 (based on indicator values for 2018) do not suggest that the PFA forecast for 2018 has been under-estimated. Therefore, the FWI Working Group concludes that no re-assessment of the existing management advice for the Faroes fishery is required from ICES in 2019'.
4. In light of the Group's conclusions, ICES has been informed that items 2.4 (provision of catch options or alternative management advice) and 2.5 (updating of the Framework of Indicators) of the Request for Scientific Advice from ICES, CNL(18)11, that relate to the North-East Atlantic Commission do not need to be addressed in 2019. The multi-annual Decision, NEA(18)12rev_final, adopted in 2018 will, therefore, continue to apply in 2019 / 2020.
5. The arrangement for applying the FWI again appeared to work well and within the timescale proposed by the Commission. We are grateful to the FWI Working Group for its work in 2019.

Secretary
Edinburgh
18 April 2019

NASCO – NORTH EAST ATLANTIC COMMISSION

REPORT OF THE FRAMEWORK OF INDICATORS WORKING GROUP 2019

Introduction:

At its annual meeting in Portland, USA in 2018 the NASCO North East Atlantic Commission (NEAC) adopted a multi-annual Decision for the Faroes salmon fishery for 2018 / 2019, 2019 / 2020 and 2020 / 2021 (NEA(18)12rev_final), together with an updated Framework of Indicators (FWI). This Decision indicated that no quota would be set for the salmon fishery in the Faroese Fisheries Zone for 2018 / 2019, and that it would also apply in 2019 / 2020 and 2020 / 2021 unless the application of the FWI shows that a reassessment is warranted.

The FWI is used in the intermediate years of a multi-year catch agreement to provide an interim assessment of the robustness of the pre-fishery abundance (PFA) forecasts provided by ICES, and to determine whether a full reassessment of stock status and new catch advice might be required. NASCO has previously agreed (NEA(13)11) that when the Faroes fishery is closed the FWI should only be used to signal the need for a reassessment where there is an under-estimate of forecast abundance (i.e. when a potential harvest might otherwise be available). The rationale for this is that if the FWI signaled that PFA had been over-estimated, any new assessment would be even less likely to signal a fishery option.

ICES advised in 2018 (CNL(18)08rev) that, since only the Northern NEAC 1SW salmon and the two Southern NEAC stock complexes (1SW and MSW) are currently forecast to be below conservation limits, thus resulting in no catch option in the Faroes, the indicators for Northern NEAC MSW salmon would not need to be included in the FWI assessments in 2019 and 2020 to determine whether new catch advice might be required. A full reassessment would, however, be required if any of the other three, the Northern NEAC 1SW salmon or one of the two Southern NEAC stock complexes suggested an increase in PFA abundance which is above the 75th percentile of the forecast PFA.

The Commission agreed (NEA(18)13) that the FWI, as updated by ICES in 2018, would be used in 2019, and that the same procedure for applying the FWI as used for the previous multi-annual Decision would apply during the new measure. Under this arrangement, a small group comprising one representative from each member of the Commission would work by correspondence to co-ordinate the data collection and application of the FWI. The Secretary will contact the Parties to seek their nominations for the Group and liaise with the Chair and report the findings to the Parties and to ICES in January in each year when the FWI is applied.

The Working Group responsible for applying the FWI in 2019 comprised:

Svein Magnason	Denmark (in respect of the Faroe Islands and Greenland)
Peder Fiske	Norway
Igor Samokhvalov	Russian Federation
Ian Russell (co-ordinator)	European Union

The Group was asked to complete their tasks before the end of January 2019 and to liaise with NASCO who would present their findings to the Parties and to ICES (Annex 1).

Work of the Working Group:

Ian Russell agreed to act as co-ordinator of the FWI Working Group for 2019. Requests for data to populate the FWI were sent to representatives from each of the North East Atlantic Commission (NEAC) countries which had indicator data sets included in the FWI. Returns were collated (Annex 2), and the co-ordinator then circulated the completed FWI worksheet for 2019 (Annex 3) and the draft report to the Working Group for their review and agreement.

Framework of Indicators Analysis – 2019:

The FWI worksheet was revised and updated by ICES in 2018. The FWI currently includes data for Northern NEAC maturing (1SW) salmon and for Southern NEAC both maturing (1SW) and non-maturing (MSW) salmon. There are thus three distinct ‘management units’ / stock complexes within the framework, and within these there are variable numbers of indicator data sets. Thus:

- Northern NEAC 1SW salmon – 6 indicator data sets
- Southern NEAC 1SW salmon – 7 indicator data sets
- Southern NEAC MSW salmon – 8 indicator data sets

The Northern NEAC data sets derive from Norway and Finland. The Southern NEAC data sets derive from UK (Scotland), UK (N. Ireland), UK (England & Wales) and Iceland (South and East). The FWI Working Group noted that the majority of the data sets used in applying the FWI in 2019 were preliminary values.

Each Working Group member has reviewed the raw data (Annex 2) and the FWI assessment spreadsheet (Annex 3) and confirmed their agreement with the following summary of the findings.

Northern NEAC 1SW salmon – Data were available for all six indicators for the Northern NEAC 1SW stock complex. Two of the indicators suggested that the PFA forecast may have been an under-estimate, but the other four did not. The aggregate indicator ‘scores’ for the 1SW stock complex are therefore consistent with the PFA forecast and do not signal the need for a re-assessment in 2019.

Southern NEAC 1SW salmon - Data were available for all seven indicators for the Southern NEAC 1SW stock complex. None of these indicators suggested that the PFA forecast may have been an under-estimate. The aggregate indicator ‘scores’ for the 1SW stock complex are therefore consistent with the PFA forecast and do not signal the need for a re-assessment in 2019.

Southern NEAC MSW salmon – Data were available for all eight of the indicators for the Southern NEAC MSW stock complex. None of these indicators suggested that the PFA forecast

was an under-estimate; one indicator suggested a possible over-estimate. The aggregate indicator 'scores' for the MSW stock complex are therefore consistent with the PFA forecast and do not signal the need for a re-assessment in 2019.

Conclusion:

The results of the NEAC FWI assessment in 2019 (based on indicator values for 2018) do not suggest that the PFA forecast for 2018 has been under-estimated. Therefore, the FWI Working Group concludes that no re-assessment of the existing management advice for the Faroes fishery is required from ICES in 2019.

**NEAC FWI Working Group
25th January 2019**

Annex 1. Notification from NASCO of representation on the FWI Working Group

From: hq@nasco.int [mailto:hq@nasco.int]

Sent: 11 January 2019

To: Framework of Indicators Working Group NEAC

Subject: FWI Working Group – North East Atlantic Commission

Dear All,

We are most grateful to you all for serving on the North-East Atlantic Commission's Framework of Indicators Working Group. There is one change from the 2017 participants. We have replaced Jóannes Hansen with Svein Magnason as the representative of Denmark (in respect of Greenland and the Faroe Islands) on the Group given that Svein is the new Head of Delegation.

The members of the Group are as follows:

Denmark (in respect of the Faroe Islands and Greenland)	Svein Magnason
European Union	Ian Russell
Norway	Peder Fiske
Russian Federation	Igor Samokhvalov

I would ask that you appoint a Co-ordinator to liaise with the NASCO Secretariat and that the Group's findings be reported to us no later than **31 January 2019** so that I can inform the Parties to the North-East Atlantic Commission and ICES of your findings. Ian Russell has served as Co-ordinator for the Group's work since 2013. I attach a copy of the Group's report from 2017, NEA(17)3.

Best regards,
Emma

Dr Emma Hatfield

Secretary

NEA14.683

NASCO
11 Rutland Square
Edinburgh
EH1 2AS
UK

Tel: Int +44 131 228 2551
Fax: Int +44 131 228 4384
e-mail: hq@nasco.int
website: www.nasco.int

Annex 2. Data inputs for the NEAC Indicator Framework - 2018.

DATA INPUTS FOR THE NEAC FWI			
Indicators for Northern NEAC 1SW PFA			2018
	Indicator data set	Country	
1	Estimated returns of 1SW salmon to Norway (PFA)	Norway	240,000
2	Return rate of 1SW salmon River Imsa (% survival)	Norway	3.4%
3	Return rate of 1SW hatchery-origin salmon River Imsa (% survival)	Norway	4.3%
4	Count of returning 1SW salmon - River Akujoki	Finland	43
5	Count of returning 1SW salmon - River Nausta	Norway	700
6	Catch of 1SW salmon in the Rivers Teno and Näätämöjoki	Finland	6,300
Indicators for Southern NEAC 1SW PFA			
	Indicator data set	Country	
1	Returning stock estimate - 1SW salmon River Tamar	UK (England & Wales)	1,360
2	Returning stock estimate - 1SW salmon River Frome	UK (England & Wales)	273
3	Estimated returns of 1SW salmon - River North Esk	UK (Scotland)	7,156
4	Return rate of 1SW salmon River Bush (% survival)	UK (N. Ireland)	3.2%
5	Estimated returns of 1SW salmon to freshwater - River Bush	UK (N. Ireland)	588
6	Returning stock estimate - 1SW salmon River Dee	UK (England & Wales)	1,293
7	Return rate of 1SW salmon River Dee (% survival)	UK (England & Wales)	2.9%
Indicators for Southern NEAC MSW PFA			
	Indicator data set	Country	
1	Estimated returns of 2SW female salmon - River Baddoch	UK (Scotland)	14
2	Estimated returns of 2SW female salmon - River Girnoch	UK (Scotland)	15
3	Returning stock estimate - MSW salmon River Itchen	UK (England & Wales)	129
4	Returning stock estimate - 1SW salmon River Itchen	UK (England & Wales)	226
5	Returning stock estimate - MSW salmon River Frome	UK (England & Wales)	154
6	Returning stock estimate - 1SW salmon River Frome	UK (England & Wales)	273
7	Catch of MSW salmon - River Ellidaar	Iceland (South & East)	27
8	Estimated returns of 2SW salmon - River North Esk	UK (Scotland)	3,674
Notes:			
	2018 indicator values are preliminary data		
	Data relate to wild fish unless otherwise indicated		

Annex 3. Indicator Framework sheet for 2019 (indicator data sets for 2018).

FWI NEAC		2019		Indicators suggest:		PFA forecast OK or overestimated							
Indicators for Northern NEAC 1SW PFA													
		Insert data from 2018 here					Median PFA			Reassess in year 2019?		Outside 75% confidence limits	
		N reg	Slope	Intercept	r ²	in 2018	12.5%ile	87.5%ile	below	above	below	above	
1 Returns all 1SW NO PFA est	240000	34	0.552774	-65761.51	0.94	326598	67692.85	161853.66	-1	1	NO	YES	
2 Survivals W 1SW NO Imsa	3.4	34	0.000011	-3.08	0.46	326598	-3.56	4.83	0	-1	Uninformative	NO	
3 Survivals H 1SW NO Imsa	4.3	35	0.000006	-0.87	0.32	326598	-1.83	3.88	0	1	Uninformative	YES	
4 Counts all Akujoki (1SW)	43	15	0.000138	-8.74	0.32	326598	-5.23	78.13	0	-1	Uninformative	NO	
5 Counts all NO Nausta (1SW)	700	20	0.001660	263.72	0.22	326598	-125.03	1736.90	0	-1	Uninformative	NO	
6 Catch rT&N 1SW FI	6300	19	0.0151388	734.79504	0.46	326598	-2961.36	14316.29	0	-1	Uninformative	NO	
						Sum of scores			-1	-2			
											Indicators do not suggest that the PFA forecast is an overestimation.	Indicators do not suggest that the PFA forecast is an underestimation.	
Indicators for Northern NEAC MSW PFA													
		Insert data from 2018 here					Median PFA			Reassess in year 2019?		Outside 75% confidence limits	
		N reg	Slope	Intercept	r ²	in 2018	12.5%ile	87.5%ile	below	above	below	above	
1 PFA-MSW-CoastNorway		34	0.347271	-2431.03	0.85	585215	164371.17	237223.69	0	0	Uninformative	Uninformative	
2 Orkla counts		17	0.013444	-3450.23	0.56	585215	2472.76	6362.55	0	0	Uninformative	Uninformative	
3 Counts all NO Nausta		20	0.004011	-1337.29	0.34	585215	-186.66	1833.25	0	0	Uninformative	Uninformative	
4 Returns all 2SW NO PFA est		24	0.2309162	14443.76	0.42	585215	80382.62	218776.12	0	0	Uninformative	Uninformative	
5 Catch W rT&N 2SW FI		19	0.007122	-1574.301	0.32	585215	-119.21	5306.43	0	0	Uninformative	Uninformative	
						Sum of scores			0	0			
											Indicators suggest that the PFA forecast is an overestimation.	Indicators suggest that the PFA forecast is an underestimation. REASSESS	
Indicators for Southern NEAC 1SW PFA													
		Insert data from 2018 here					Median PFA			Reassess in year 2019?		Outside 75% confidence limits	
		N reg	Slope	Intercept	r ²	in 2018	12.5%ile	87.5%ile	below	above	below	above	
1 Ret. W 1SW UK(E&W) Tamar M	1360	24	0.001432	1602.12	0.21	541573	996.21	3759.15	-1	-1	NO	NO	
2 Ret. W 1SW UK(E&W) Frome M	273	45	0.000509	-86.67	0.40	541573	-332.59	710.90	0	-1	Uninformative	NO	
3 Ret. W 1SW UK(Sc.) North Esk M	7156	37	0.006373	2890.55	0.67	541573	3114.74	9569.75	-1	-1	NO	NO	
4 Surv. W 1SW UK(NI) Bush M	3.18	29	1.806E-05	-9.622657	0.61	541573	-8.97	9.29	0	-1	Uninformative	NO	
5 Ret. Freshw 1SW UK(NI) Bush	588	43	0.000562	525.54	0.23	541573	25.84	1633.54	-1	-1	NO	NO	
6 Ret. W 1SW UK(E&W) Dee M	1293	26	0.0031263	-652.8733	0.5	541573	-528.24	2608.76	0	-1	Uninformative	NO	
7 Surv coast 1SW UK(E&W) Dee M	2.86	22	2.513E-06	0.0508386	0.28	541573	-0.63	3.45	0	-1	Uninformative	NO	
						Sum of scores			-3	-7			
											Indicators do not suggest that the PFA forecast is an overestimation.	Indicators do not suggest that the PFA forecast is an underestimation.	
Indicators for Southern NEAC MSW PFA													
		Insert data from 2018 here					Median PFA			Reassess in year 2019?		Outside 75% confidence limits	
		N reg	Slope	Intercept	r ²	in 2018	12.5%ile	87.5%ile	below	above	below	above	
1 Ret. W 2SW UK(Sc.) Baddoch NM	14	30	0.000055	-10.62	0.38	600538	8.74	36.62	-1	-1	NO	NO	
2 Ret. W 2SW UK(Sc.) Girnoch NM	15	46	0.000045	4.59	0.39	600538	1.77	61.05	-1	-1	NO	NO	
3 Ret. W MSW UK(E&W) Itchen NM	129	30	0.000325	-98.19	0.33	600538	5.59	188.77	-1	-1	NO	NO	
4 Ret. W 1SW UK(E&W) Itchen NM	226	30	0.000733	-153.86	0.29	600538	58.86	513.87	-1	-1	NO	NO	
5 Ret. W MSW UK(E&W) Frome NM	154	45	0.000790	95.58	0.30	600538	-8.53	1148.62	0	-1	Uninformative	NO	
6 Ret. W 1SW UK(E&W) Frome NM	273	45	0.000673	169.47	0.24	600538	-1.21	1148.94	0	-1	Uninformative	NO	
7 Catch W MSW Ice Ellidaar NM	27	46	0.000117	-37.84	0.54	600538	-24.79	89.24	0	-1	Uninformative	NO	
8 Ret. W 2SW UK(Sc.) North Esk NM	3674	37	0.0079838	1458.9333	0.51	600538	3804.18	8702.83	1	-1	YES	NO	
						Sum of scores			-3	-8			
											Indicators do not suggest that the PFA forecast is an overestimation.	Indicators do not suggest that the PFA forecast is an underestimation.	