



Salmonids

Week 1 • 2019

Weekly salmon outlook

Demo report

Summary of forecasts

Spot price for fresh whole salmon made a leap in the last week of 2018, jumping around 1 EUR/kg from the previous week. The movement in spot price from week 51 to 52 must be seen in relation to low sales volume last week which in turn was a result of limited number of working days. The latter contributed to weekly sales volume in Norway 10% lower than in the corresponding week in 2017.

Average spot prices in Norway (all sizes) have since mid-November trended well above the level seen in the corresponding weeks in 2017 (measured in NOK). In December, weakening of NOK has contributed keeping prices on a higher level.

In the end of week 1 there seems to be a downward price correction of around 10%.

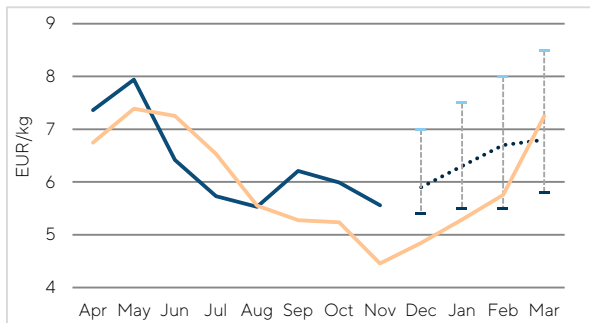
On the production side, harvest in Chile has picked up strongly in Q4 with record volume in October and 2-digit growth in November. Still, there is a slight gap between harvest and sales volume over the last months. In Norway, disease challenge may lead to forced harvest in January. In UK, production seems to go well with feed sales and consumption significantly up in November. More details on the production section on page 3.

Price outlook

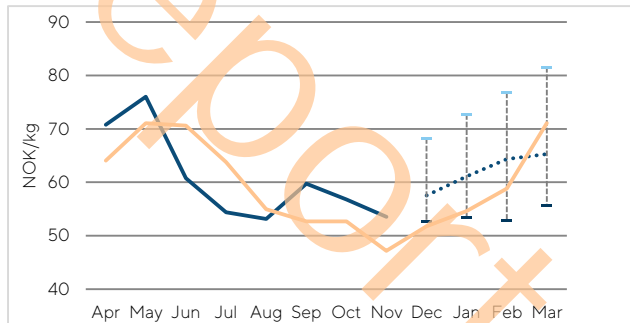
The price forecast presented in the table and graphs below are based on a model combining regression analysis of main factors affecting short term market prices and production, and harvest and market supply forecast from production and market models. Please note that forecast output is in Euro. The models do not and cannot include all assumptions and factors. Our price forecast is thus presented with a high/low range, where other assessments, and week to week developments are taken into consideration.

	Avg 4 weeks	Week				Forecast based on harvest and price forecast models								
		52	W-1	%	Y-1	%	Dec	W-1	Jan	W-1	Feb	W-1	Mar	W-1
European prices - FPI - EUR/kilo	6,06	6,60	0,86	15%	1,11	20%	5,90	0,00	6,30	0,00	6,70	0,00	6,80	0,00
Exchange rate EUR / NOK	9,82	9,98	0,09	1%	0,09	1%	9,75	0,00	9,70	0,00	9,60	0,00	9,60	0,00
European prices - FPI - NOK/kilo	59,48	65,91	9,12	16%	11,74	22%	57,53	0,00	61,11	0,00	64,32	0,00	65,28	0,00
HQ: Norway	26 500	12 900	-17 500		-2 700		117 400	0	101 700	0	95 100	0	104 400	0

PRICE FORECAST - EUROPEAN "SPOT" PRICES (FPI)

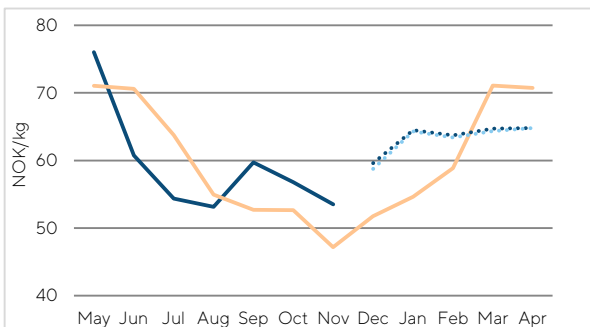


FRESH SALMON 3-6 KILO, FCA OSLO



— Actual spot Forecast modell — Upper range — Lower range — Spot 3-6 kg Y-1

FORWARD MARKET PRICES



— Actual spot
 — Spot 3-6 kg Y-1
 Current Forward Prices
 Forward Prices W-1

Weekly sales volumes

HISTORICAL HARVEST QUANTITY, WEEKLY DATA/KA MODELS

	Norway		Avg. harvest weight wfe		Total hq Europe	
	curr Y	Y-1	curr Y	Y-1	curr Y	Y-1
Sept 18	104 400	-10%			105 400	-10%
Oct 18	121 900	4%			123 000	4%
Nov 18	120 000	-2%			121 700	-1%
Week 49	30 700	4%	4,71	-1%	34 700	-4%
Week 50	31 900	-6%	4,64	1%	35 900	-12%
Week 51	30 400	7%	4,36	-5%	34 400	-2%
Week 52	12 900	-17%	4,39	4%	16 900	-24%
Avg. 4W	26 500	-1%	4,53	0%	30 500	-9%
Sum 4W	105 900	-1%			121 900	-9%
Sum 4WY-1	107 400				134 200	

FORECAST HARVEST QUANTITY, KA MODELS

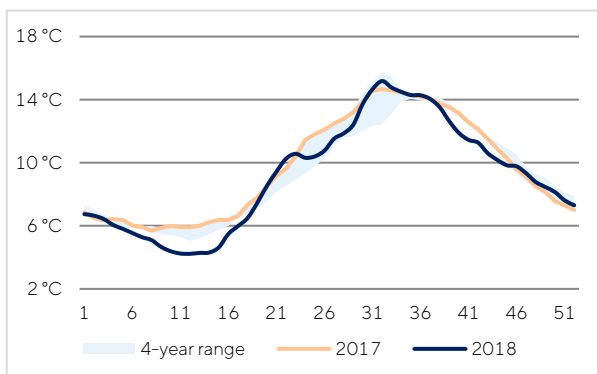
	Hq Norway		Total hq Europe	
	curr Y	Y-1	curr Y	Y-1
Week 1		↔	24 300	↑
Week 2		↓	27 400	↔
Week 3		→	27 400	↔
Week 4		↓	28 400	↔
Av 4W	22 200	0% →	26 900	3% ↑
Sum 4W	88 700	0% →	107 500	3% ↔
Dec 18	117 400	-1% ↓	141 300	0% →
Jan 19	101 700	2% ↔	122 300	4% ↑
Feb 19	95 100	7% ↑	114 000	6% ↑
Mar 19	104 400	2% ↔	125 100	3% ↑

Sea temperature index

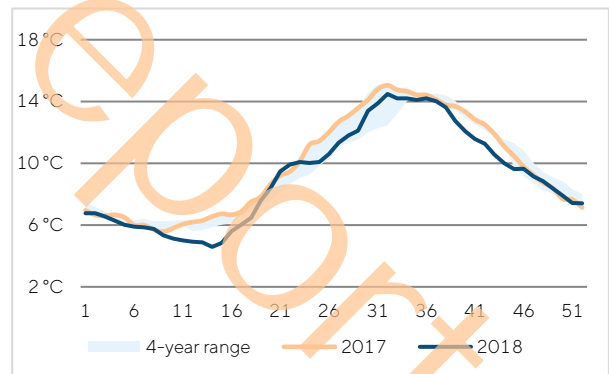
Sea temperatures indices consist of observations from each region. West region consist of Hordaland and Sogn og Fjordane counties, Mid consist of Møre og Romsdal and Sør-Trøndelag and North consist of Nord-Trøndelag and Nordland. Average Norway is the average sea temperatures for all counties involved with salmon farming.

Sea temperature	49	50	51	52	Avg 4 weeks	Y-1	YTD	Y-1
West	9,5°C	9,3°C	8,5°C	7,9°C	8,8°C	9%	9,9°C	-5%
Mid	8,4°C	7,9°C	7,4°C	7,4°C	7,8°C	1%	9,2°C	-6%
North	7,5°C	7,3°C	6,9°C	6,6°C	7,1°C	4%	8,4°C	-4%
Norway	8,5°C	8,1°C	7,6°C	7,3°C	7,9°C	5%	9,2°C	-5%

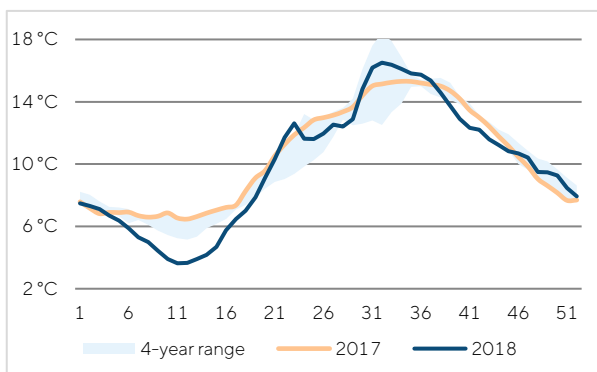
NORWAY



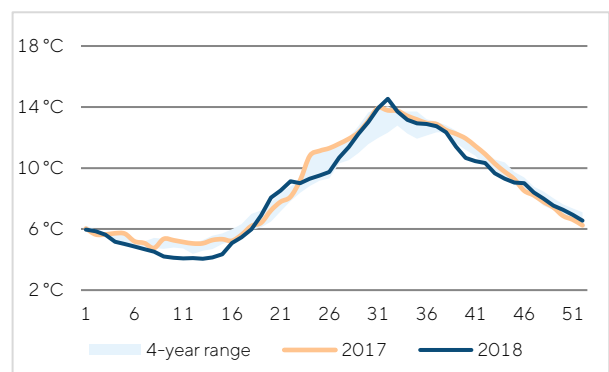
MID



WEST



NORTH



Production trends

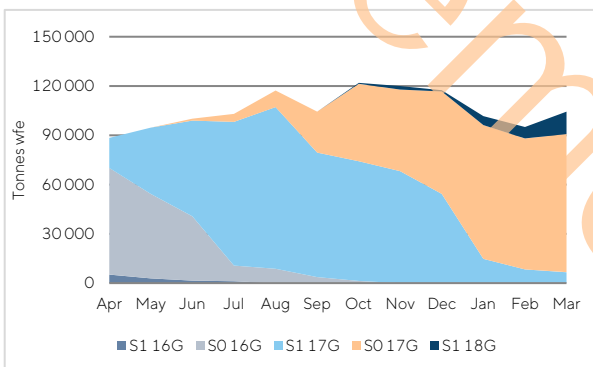
Harvest of Atlantic salmon grows strongly in Chile in the 4th quarter of 2018. In October Chilean harvest was estimated to approx. 70 000 tonnes wfe which is all-time monthly high harvest volume (+34% year over year). Harvest in November is this week adjusted up to just above 61 000 tonnes wfe (+11% year over year). The same increase is forecasted for harvest in December. Despite high harvest and sales activity, supply from Chile to the European market remains moderate in October and November.

Disease challenges in the mid region in Norway, where PD has been detected on 1,8 million salmon, may lead to forced harvest in January. While a significant share of the fish is considered to have reached harvestable size, some of the salmon could end up not being sold. This incident is not yet incorporated in our models.

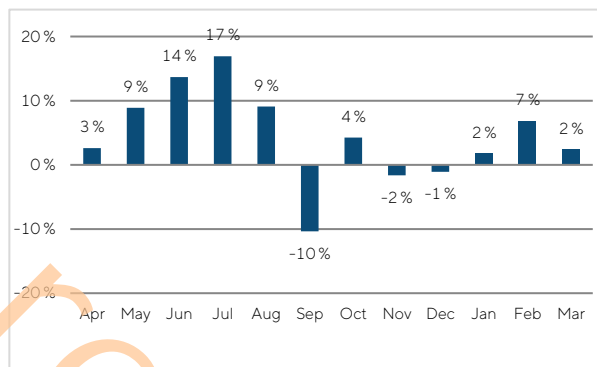
UK estimated feed consumption by Atlantic salmon has been somewhat revised up in November. The last five months have been strong, and it seems like the production in the UK is continuing in a good pace. Compared to the same month last year November shows a year over year increase of 45 % regarding feed consumption.

Norway

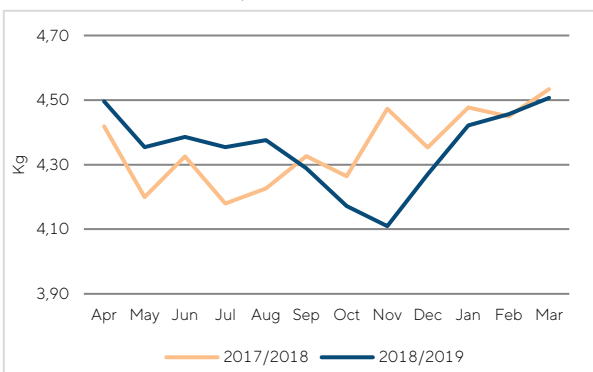
MONTHLY HARVEST VOLUME



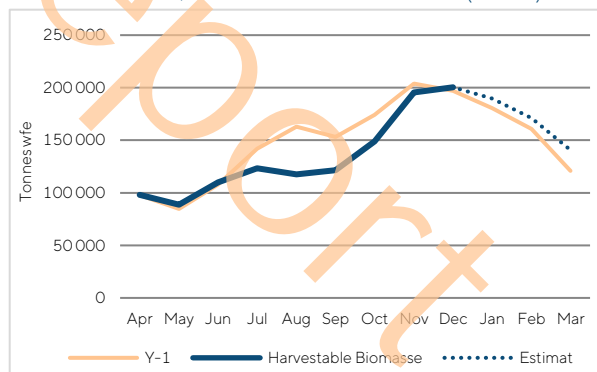
CHANGE MONTHLY HARVEST VOLUME, YOY



AVG HARVEST WEIGHT, GUTTED



DEVELOPMENT, HARVEST READY BIOMASS (+ 4 KG)

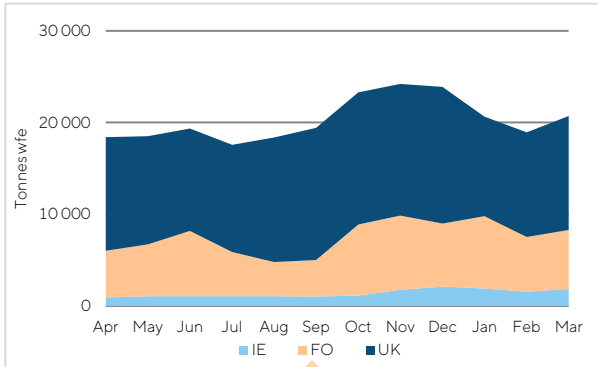


BIOMASS DEVELOPMENT, OLDEST GENERATIONS

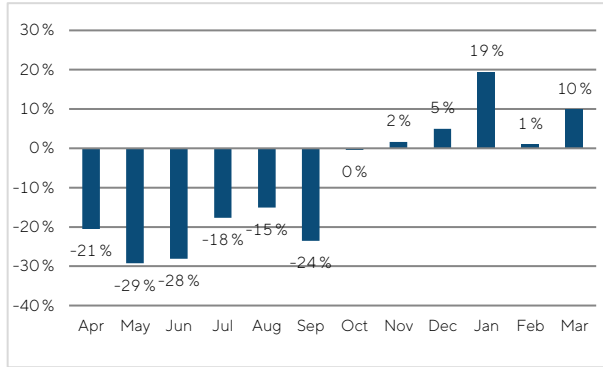
	S1 17G vs S1 16G			S0 17G vs S0 16G			Total biomass of generations for harvest			Forecast W-1			Change W-1		
	No ind	Weight	Volume	No ind	Weight	Volume	No ind	Weight	Volume	No ind	Weight	Volume	No ind	Weight	Volume
1st of Dec 2017	19 800	4,99	98 800	99 100	3,53	349 400	118 900	3,77	448 200	118 900	3,77	448 200			
1st of Dec 2018	19 100	4,46	85 100	107 500	3,55	382 100	126 600	3,69	467 200	126 600	3,69	467 200	0,0%	0,0%	0,0%
Balance Dec 2018	-4%		-14%	8%		9%	6%		4%	6%		4%			
1st of Jan 2018	8 200	5,02	41 200	84 100	3,84	322 600	92 300	3,94	363 800	92 300	3,94	363 800			
1st of Jan 2019	8 300	4,25	35 300	91 400	3,89	355 100	99 700	3,92	390 400	99 700	3,92	390 400	0,0%	0,0%	0,0%
Balance Jan 2019	1%		-14%	9%		10%	8%		7%	8%		7%			
1st of Feb 2018	5 000	5,18	25 900	67 000	4,04	271 000	72 000	4,12	296 900	72 000	4,12	296 900			
1st of Feb 2019	5 400	4,37	23 600	73 400	4,10	300 600	78 800	4,11	324 200	78 800	4,11	324 200	0,0%	0,0%	0,0%
Balance Feb 2019	8%		-9%	10%		11%	9%		9%	9%		9%			

UK, Ireland & Faroe Islands

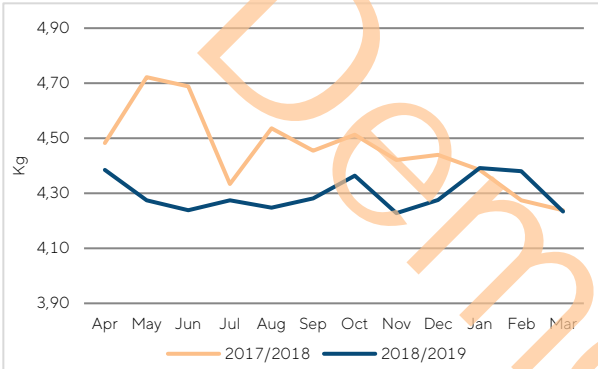
MONTHLY HARVEST VOLUME



CHANGE MONTHLY HARVEST VOLUME, YOY



AVG HARVEST WEIGHT, GUTTED

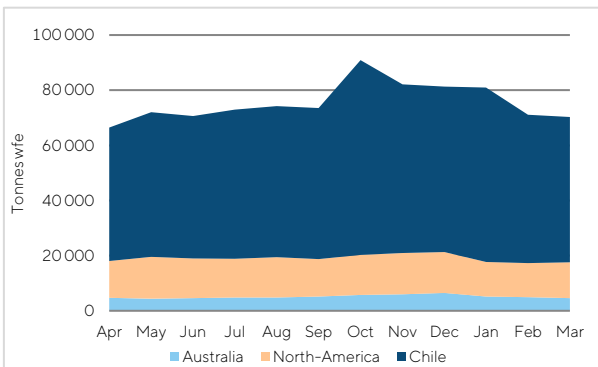


BIOMASS DEVELOPMENT, OLDEST GENERATIONS

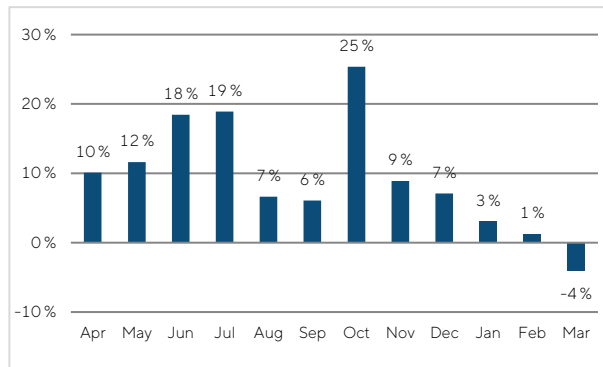
	S1 17G vs S1 16G			S0 17G vs S0 16G			Total Biomass of Generations for Harvest			Forecast W-1			Change W-1		
	No ind	Weight	Volume	No ind	Weight	Volume	No ind	Weight	Volume	No ind	Weight	Volume	No ind	Weight	Vol.
1st of Dec 2017	6 800	4,88	33 200	14 200	3,44	48 900	21 000	3,91	82 100	21 000	3,91	82 100			
1st of Dec 2018	7 400	4,38	32 400	16 500	3,67	60 600	23 900	3,89	93 000	23 900	3,85	92 100	0,0%	-1,0%	-1,0%
Balance Dec 2018	9%		-2%	16%		24%	14%		13%	14%		12%			
1st of Jan 2017	3 600	5,00	18 000	12 800	3,80	48 600	16 400	4,06	66 600	16 400	4,06	66 600			
1st of Jan 2018	4 100	4,54	18 600	15 100	4,07	61 400	19 200	4,17	80 000	19 200	4,12	79 100	0,0%	-1,1%	-1,1%
Balance Jan 2018	14%		3%	18%		26%	17%		20%	17%		19%			
1st of Feb 2017	1 700	5,18	8 800	11 100	4,06	45 100	12 800	4,21	53 900	12 800	4,21	53 900			
1st of Feb 2018	2 200	4,77	10 500	12 900	4,28	55 200	15 100	4,35	65 700	15 100	4,30	65 000	0,0%	-1,1%	-1,1%
Balance Feb 2018	29%		19%	16%		22%	18%		22%	18%		21%			

Americas & Australia

MONTHLY HARVEST VOLUME



CHANGE MONTHLY HARVEST VOLUME, YOY



Price trends

Spot prices for fresh whole salmon have since the beginning of September trended higher than in 2017. Over the last 6 weeks there has been a 2-digit rise in prices (measured in NOK), ranging from 11% to 26% (the latter in week 52). Weakening of NOK compared with the main currencies has contributed keeping prices on a higher level. In the 3 weeks period prior to the Christmas holidays, NOK weakened by 4% against EUR and USD, and 5% against JPY.

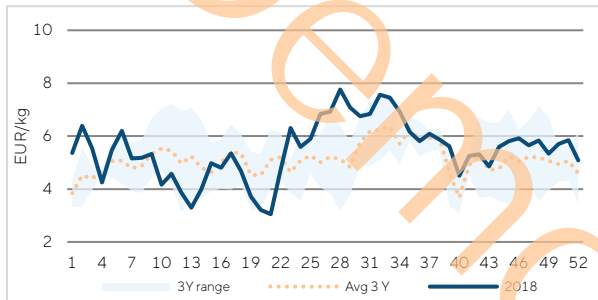
Another observation in December is the size composition of the salmon sold from Norway. In 2018, 78% of the salmon sold from Norway was in the 3-6kg size range. In December 2017 the corresponding percentage was 72%. Increase in the percentage of 3-6kg salmon and consequently fall in the percentage of salmon larger than 6kg, has contributed to fall in exports to markets (USA and the Far East) with preference for large sized salmon.

Prices on the French market were relative stable in the last weeks of 2018. High promotion activity among French retailers in the Christmas sales season contributed to a slight fall in prices for fresh salmon portions. In the first 3 weeks of December 20% of French large-scale retailers promoted fresh salmon portions at prices 20-25% below normal price level.

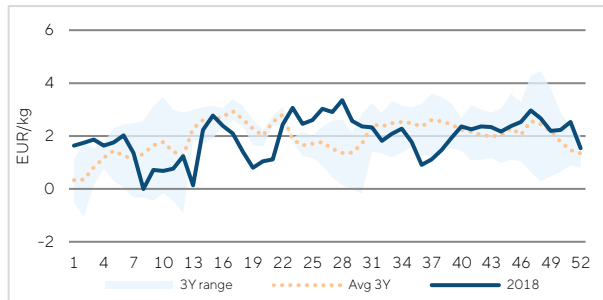
A stable price trend is also observed on the US market for fresh fillets and fresh whole salmon.

Historical estimated margin development

FCA OSLO VS RETAIL FRANCE

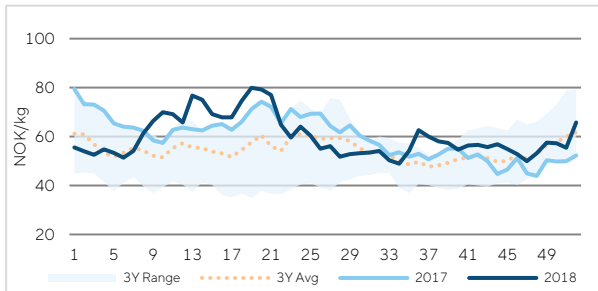


FCA OSLO VS WHOLESALE FRANCE

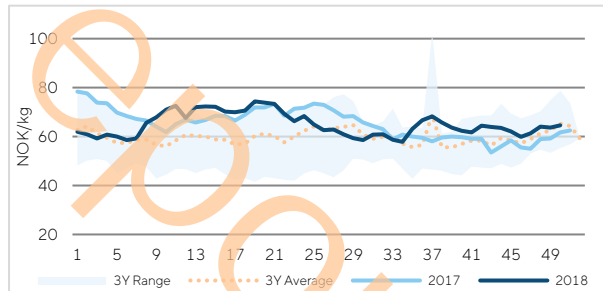


Historical market prices

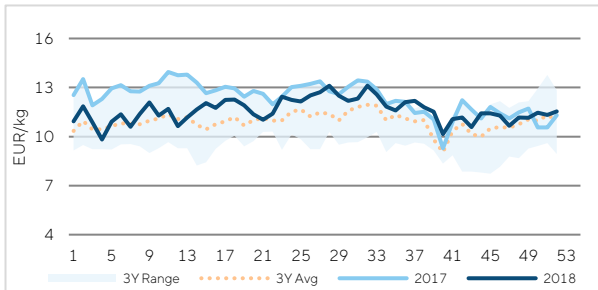
NORWAY FRESH WHOLE AVERAGE - NQSALMON



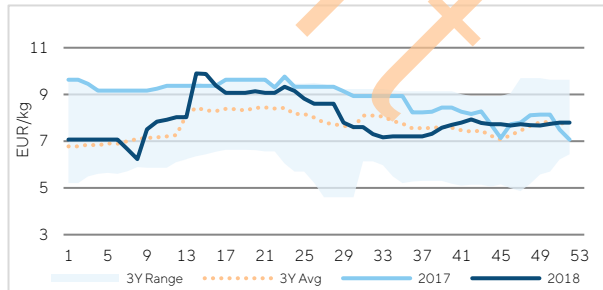
JAPAN FRESH SALMON NORWEGIAN FOB EXPORT PRICE



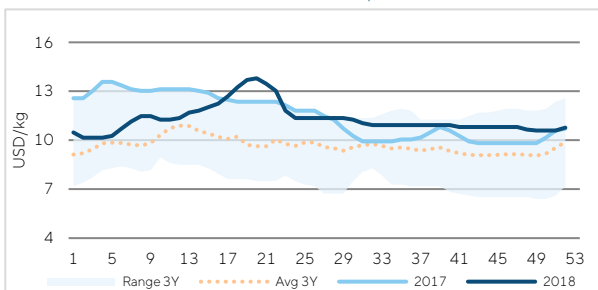
WHOLE SALMON - RETAIL FRANCE



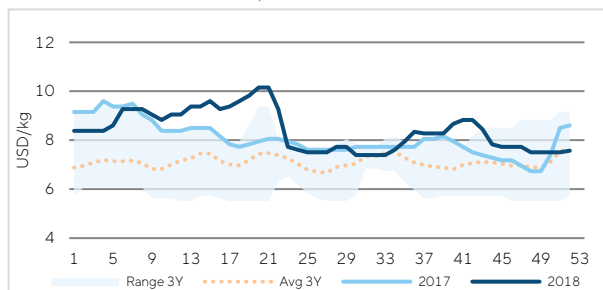
FRESH NORW. SALMON 4-5 KG · WHOLESALE RUNGIS



USA FRESH FILLETS CHILEAN D-TRIM 1-1,5 KG FOB - MIAMI



USA FRESH SALMON 5-6 KG, FOB NORTH EAST

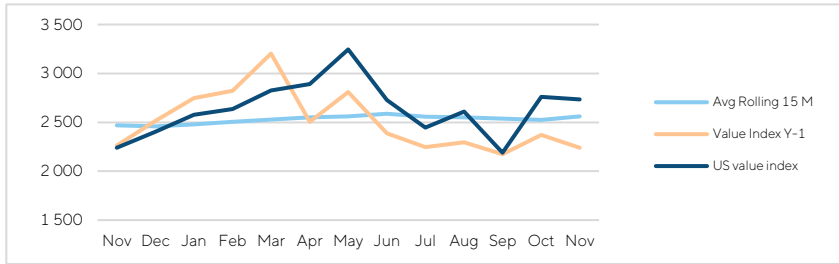


Market trends - Market Value Index (MVI)

Projection of market value is based on forecasted supply volume and average price level for the last 4 months. See definitions for construction of MVI.

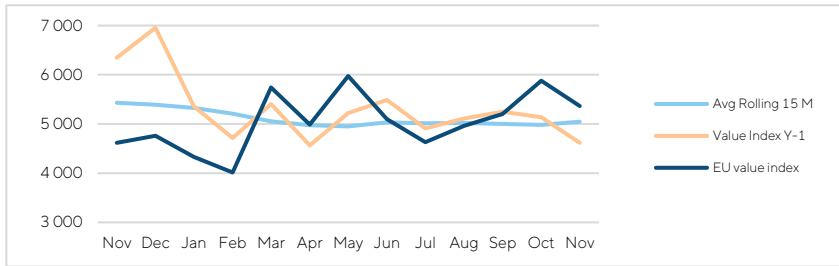
US ATLANTIC SALMON INDEX (IN USD)

	Index	ch Y-1
Q1 2018	2 679	↓ -8%
Q2 2018	2 956	↑ 15%
Q3 2018	2 415	↑ 8%
Aug 2018	2 610	↑ 14%
Sep 2018	2 190	↔ 1%
Oct 2018	2 762	↑ 16%
Nov 2018	2 733	↑ 22%



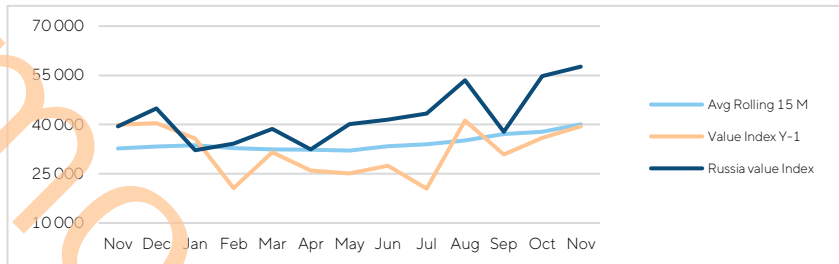
EU ATLANTIC SALMON INDEX (IN EUR)

	Index	ch Y-1
Q1 2018	4 695	↓ -9%
Q2 2018	5 355	↑ 5%
Q3 2018	4 931	↓ -3%
Aug 2018	4 961	↔ -3%
Sep 2018	5 204	↔ -1%
Oct 2018	5 877	↑ 14%
Nov 2018	5 365	↑ 16%



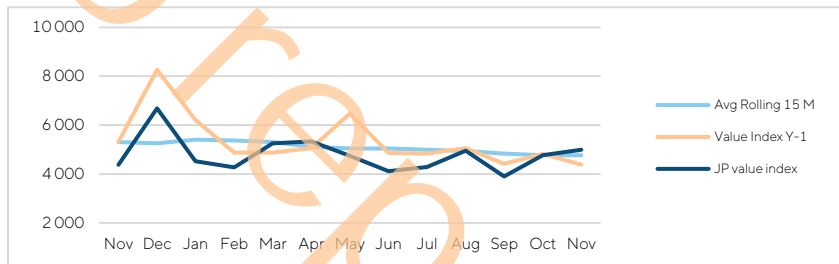
RU ATLANTIC SALMON INDEX (IN RUB)

	Index	ch Y-1
Q1 2018	35 003	↑ 19%
Q2 2018	38 020	↑ 45%
Q3 2018	44 887	↑ 46%
Aug 2018	53 525	↑ 30%
Sep 2018	37 762	↑ 22%
Oct 2018	54 746	↑ 52%
Nov 2018	57 646	↑ 46%



JP ATLANTIC SALMON INDEX (IN JPY)

	Index	ch Y-1
Q1 2018	4 684	↓ -12%
Q2 2018	4 731	↓ -13%
Q3 2018	4 377	↓ -8%
Aug 2018	4 951	↔ -2%
Sep 2018	3 900	↓ -12%
Oct 2018	4 766	↔ -1%
Nov 2018	4 989	↑ 14%



Market supply trends (1 000 tonnes wfe)

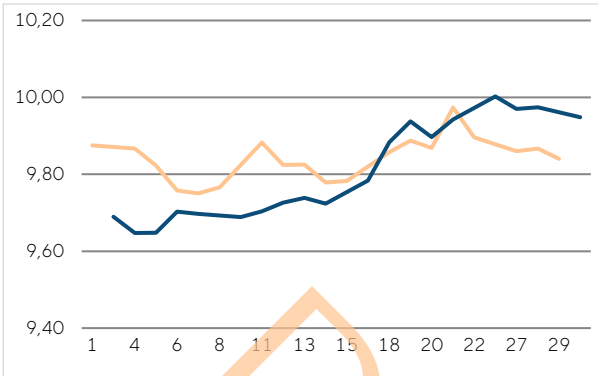
	EU		USA		RUSSIA		JAPAN		OTHERS		WW	
	curr Y	ch Y-1	curr Y	ch Y-1	curr Y	ch Y-1	curr Y	ch Y-1	curr Y	ch Y-1	curr Y	ch Y-1
Q3 16	274	↔ -1%	98	↓ -5%	18	↓ -42%	16	↔ -1%	145	↓ -11%	552	↓ -6%
Q4 16	280	↓ -7%	97	↓ -11%	22	↓ -17%	19	↓ -6%	157	↓ -10%	575	↓ -9%
Q1 17	226	↓ -9%	112	↓ -4%	17	↓ -20%	15	↓ -6%	154	↓ -4%	525	↓ -7%
Q2 17	227	↔ -9%	110	↔ 2%	16	↑ 17%	16	↑ 16%	151	↑ 4%	519	↔ -2%
Q3 17	273	↔ 0%	106	↑ 8%	19	↑ 6%	15	↓ -9%	165	↑ 13%	578	↑ 5%
Q4 17	298	↑ 6%	114	↑ 18%	26	↑ 16%	18	↓ -5%	187	↑ 19%	643	↑ 12%
Q1 18	238	↑ 5%	120	↑ 7%	24	↑ 42%	14	↓ -8%	181	↑ 17%	577	↑ 10%
Q2 18	242	↑ 7%	122	↑ 12%	22	↑ 39%	13	↓ -17%	158	↑ 5%	558	↑ 7%
Q3 18	275	↔ 1%	113	↑ 7%	24	↑ 26%	14	↓ -4%	170	↑ 3%	597	↑ 3%
Aug 17	94	↑ 4%	37	↑ 5%	8	↑ 45%	5	↓ -8%	57	↑ 11%	202	↑ 7%
Sep 17	100	↓ -4%	34	↑ 4%	7	↓ -4%	5	↓ -13%	58	↑ 13%	204	↔ 1%
Oct 17	99	↑ 6%	38	↑ 18%	8	↔ -2%	5	↔ 0%	58	↑ 20%	209	↑ 11%
Nov 17	101	↑ 5%	38	↑ 22%	9	↑ 20%	5	↓ -7%	66	↑ 24%	219	↑ 13%
Dec 17	98	↑ 8%	38	↑ 13%	9	↑ 34%	7	↓ -6%	63	↑ 13%	215	↑ 11%
Jan 18	83	↑ 18%	40	↑ 17%	7	↑ 12%	5	↓ -13%	63	↑ 30%	198	↑ 20%
Feb 18	72	↔ 2%	38	↑ 9%	8	↑ 100%	4	↓ -7%	57	↑ 12%	179	↑ 9%
Mar 18	84	↔ -2%	41	↔ -2%	9	↑ 37%	5	↓ -3%	62	↑ 11%	200	↔ 3%
Apr 18	74	↑ 4%	41	↑ 18%	7	↑ 24%	5	↓ -6%	55	↑ 13%	181	↑ 10%
May 18	82	↑ 9%	41	↔ 2%	8	↑ 52%	4	↓ -31%	53	↔ -2%	187	↑ 4%
Jun 18	86	↑ 7%	40	↑ 16%	8	↑ 41%	4	↓ -10%	51	↑ 4%	190	↑ 9%
Jul 18	87	↑ 11%	38	↑ 8%	8	↑ 97%	5	↔ 0%	54	↑ 10%	192	↑ 12%
Aug 18	97	↑ 3%	42	↑ 11%	9	↑ 12%	6	↑ 4%	63	↑ 10%	216	↑ 7%
Sep 18	91	↓ -10%	34	↔ 2%	7	↔ 0%	4	↓ -17%	53	↓ -9%	189	↓ -7%
Oct 18	106	↑ 7%	41	↑ 8%	11	↑ 39%	5	↓ -5%	69	↑ 18%	232	↑ 11%
Nov 18	104	↑ 3%	43	↑ 12%	11	↑ 31%	5	↑ 6%	66	↔ 1%	230	↑ 5%

Main currency trends

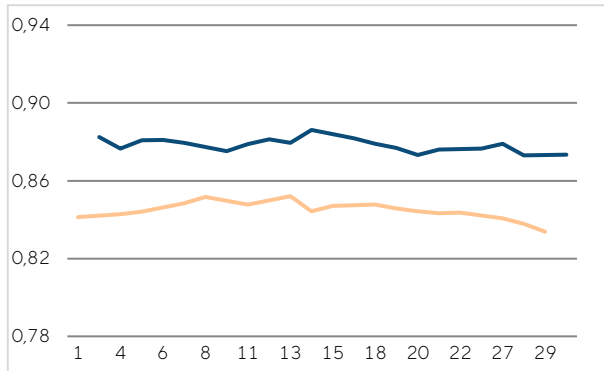
Daily currency details for 01.12.18 - 31.12.18

— 2017 — 2018

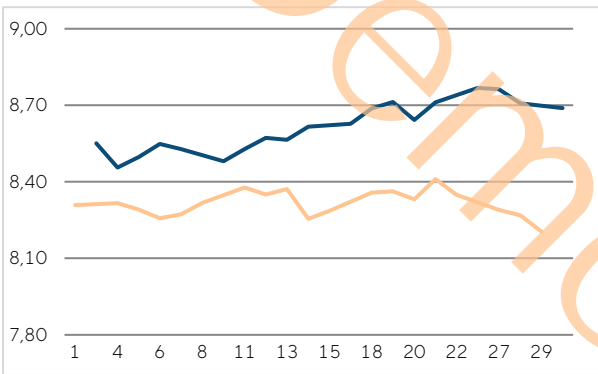
NOK/EUR



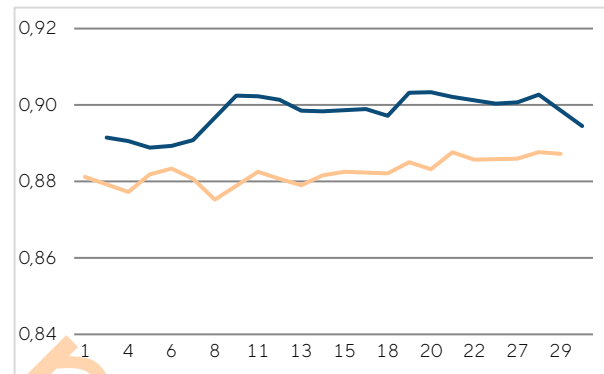
EUR/USD



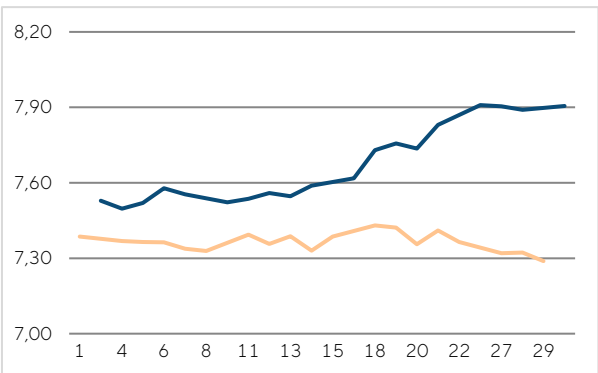
NOK/USD



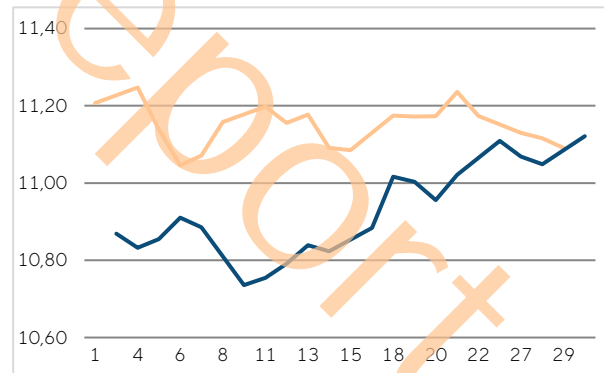
GBP/EUR



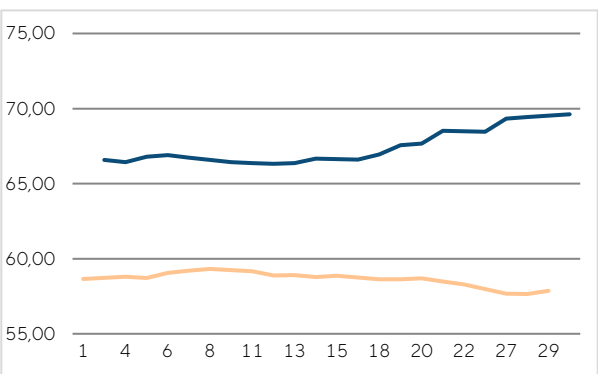
NOK/100JPY



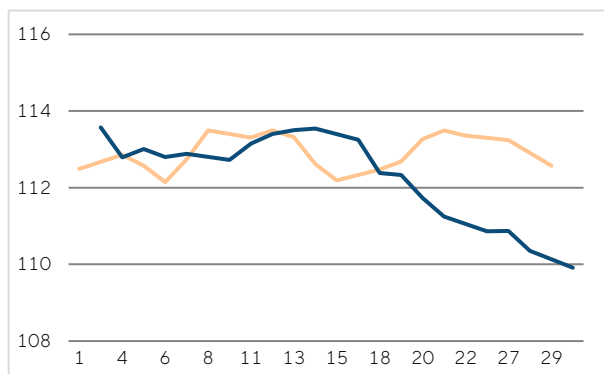
NOK/GBP



RUB/USD



JPY/USD



Definitions / Abbreviations

wfe	Whole Fish Equivalent; equal to round harvest weight (ex blood)
Biomass	Live stock
G	Generation of salmon
S 1	Smolt released into the sea in spring - after 1-2 years in landbased smolt plant
S 0	Smolt released into the sea in the autumn - after less than a year in landbased smolt plant
Harvest ready biomass	An estimated share of the biomass which based on average weight of the various fish groups, has reached a size qualifying as harvest ready (4kg wfe)
Sea temperature	Presented in degrees celsius
HQ	Harvest quantity
HQ Forecast	Harvest forecast based on Kontali production models
Europe	Europe related to production; European salmon farming countries
t	Metric tonnes
avg	average
Q	Quarter
Y	Year
Y-1	Previous year
m	Month
m-1	Previous month
w	Week
w-1	Prevoius week
YoY	Change Year over Year
NQSALMON	Norwegian first hand prices for fresh gutted superior quality salmon, delivered fca Oslo, collected and presented by NASDAQ OMX
NQSALMON 3-6	The above mentioned price quotation for salmon size 3-6 kilo
FPI	FishPool Index
FP FWD	FishPool forward prices
European prices	Equal to Fish Pool Index which is composed by 3 indexes (of which 1 is European purchasing prices)
Fca Oslo	Free Carrier (inco term); sales price for salmon delivered in Oslo
Vol	Volume
HOG	Head on, gutted
NO	Norway
RU	Russia
JP	Japan
EU market	EU 27
USA NE	USA North East coast (price quotations on US East coast)
MVI	Market Value Index; measures total market supply value, in market currency, based on supply volume from the main supplying countries and a composition of relevant market prices for each market. Estimated Future MVI; monthly price input based on KA price forecast
EUR	Euro
NOK	Norwegian Krone
JPY	Japanese Yen
RUB	Russian Rubles
GBP	British Pound Sterling
USD	United States Dollar