2017
March

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AQUABENCH® Análisis & Asesorías

NEWS Letter

2016 SALMON INDUSTRY BALANCE *:

2016 Productive Results Affected by Harvest Reduction and Mortality Increase

Due to the impact produced by the Algae Bloom during the first months of the year, the industry productive results were affected negatively, mainly because of the increase of mortality and the reduction of the biomass harvested.

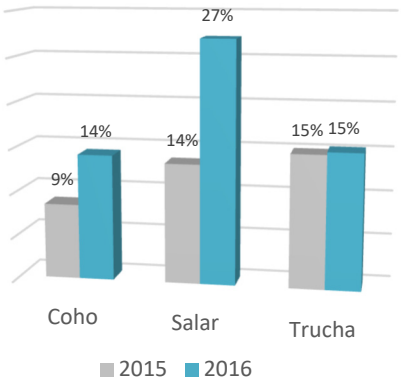
Mortality

Atlantic Salmon had a 27.2% of accumulated mortality in closed groups in 2016. It is the species that suffered the strongest effect produced by the Algae Bloom, which impacted the salmon industry results during the first three months of the year. In the case of **Rainbow Trout**, mortality reached 15.3% and in **Coho Salmon**, it was 14.2%. Both species were also affected by the Algae Bloom, but to a lesser extent.

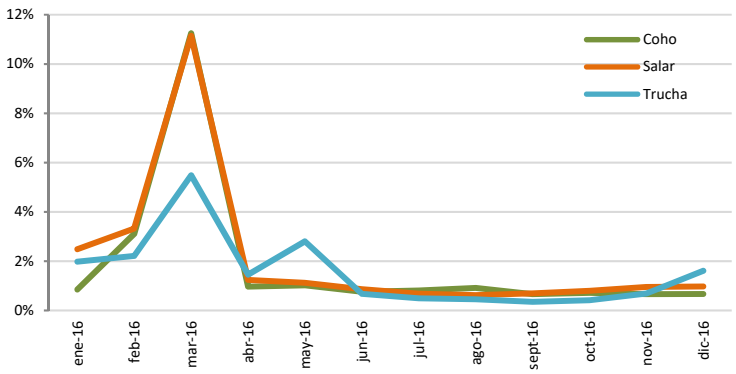
The analysis shows that the average monthly mortality in 2016 for **Atlantic Salmon** was 2.1%, that of **Coho Salmon** was 1.6% and 1.5% for **Rainbow Trout**. This monthly mortality was higher than in 2015 for the three species: Atlantic Salmon (0.9%), Coho Salmon (0.9%) and Rainbow Trout (1.4%)

Therefore, 2016 productivity balance shows a total amount of dead fish equivalent to 47.7 million during the growout stage. Per species, 35.9 million correspond to **Atlantic Salmon**, 6.8 million to **Coho Salmon** and 4.8 million to **Rainbow Trout**. 66% of this mortality happened during Q1 2016 due to the Algae Bloom.

Accumulated Mortality
2015 vs 2016
(January - December)



Monthly Mortality
2016



*** The numbers mentioned in this document correspond to those obtained directly from our own Databases (DB). To extrapolate to 100% of the industry, it is necessary to use the estimated DB representativeness, which is 89.3% in average (Coho Salmon: 100%; Atlantic Salmon: 83.2% and Rainbow Trout: 100%).**

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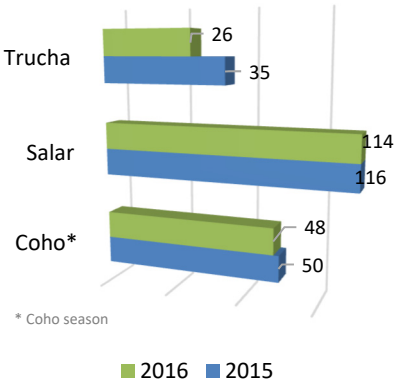
Smolt stocking
Jan - Dec 2015 vs 2016
(million smolt per species)



Smolt Stocking

In 2016, there was an average decrease of 3% in smolt stocking, in relation to the previous year (2015), reaching a total amount of 187.9 million smolt transferred to the sea compared with 201.3 recorded during 2015 for the three species farmed.

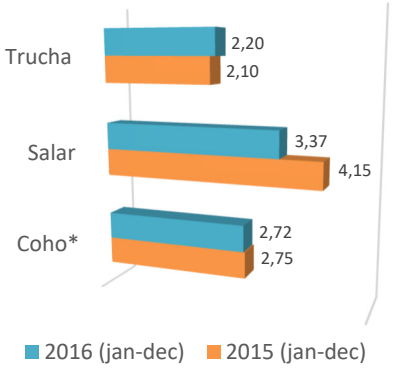
Per species, the numbers show reductions of 2% in **Atlantic Salmon**, 27% in **Rainbow Trout** and 2.9% in **Coho Salmon** (as a season).

The weight of the fish when transferred to the sea in 2016 increased in relation to the previous year for the three species: Atlantic Salmon 151 g. (↑14%), Rainbow Trout 234 g. (↑31%) and Coho Salmon 182 g. (↑2%).

Biomass and the Number of Fish

The report shows that, at the end of 2016 (December), there was a reduction of 7% (compared with the previous year) of the number of live fish, with an estimation of a total of 178.0 million fish (considering the 3 species). This negative variation can be greatly explained by the reduction of **Rainbow Trout**, which showed a decrease of 21% in the number of live fish in December 2016, compared with the same month of the previous year. The 9% reduction of **Atlantic Salmon** also had an influence, which had 140.7 million live fish at the end of December 2016. **Coho Salmon** was the only species that increased (120%) the number of live fish, reaching 13.4 million at the end of December 2016. This increase is mainly due to a time difference between the harvests made in 2016 and an earlier stocking made during the new season.

Industry productivity
(kg harvested / smolt)



Regarding living biomass during the growout stage, the analysis reveals a reduction of 10% in relation to December 2016, with a total of 334.2 thousand tons at the end of 2016. Per species, **Atlantic Salmon** – that represents 78% of the total living biomass – shows a reduction of 15% up to December 2016, in relation to the same month of the previous year, reaching 262,198 tons. Likewise, the biomass of **Rainbow Trout** decreased 6% and **Coho Salmon** increased 57%.

Productivity

The effect of the Algae Bloom at the beginning of the year was also reflected in the productivity of **Atlantic Salmon,** which reduced to **3.37 kg** (at the end of 2016) harvested/smolt transferred to the sea, amount that is 19% lower than the amount registered in 2015. However, there was an improvement in productivity as of August 2016, reaching an average of 4.19 kg harvested/smolt between August and December 2016. In the case of **Rainbow Trout,** a slight improvement in productivity of 5% was observed, reaching **2.20 kg** harvested/smolt, whereas for **Coho Salmon,** it decreased 1%, reaching **2.71 kg** harvested/smolt (as a season).

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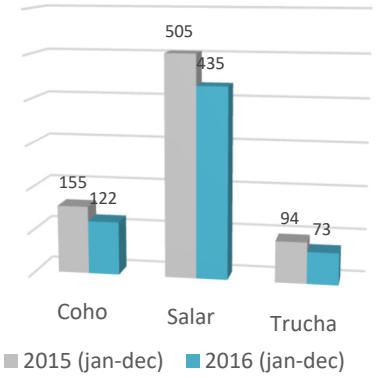
Harvest of the Industry
Jan - Dec 2015 vs 2016
(thousand tons WFE)



Harvest

The total biomass harvested by the whole industry for the three species in 2016 reached 629 thousand tons (WFE*), amount which is 17% lower than the previous year. Per species, the accumulated harvested volumes (WFE) at the end of the year reached **434.8 thousand** tons for **Atlantic Salmon**, **72.9 thousand tons** for **Trout** and **121.7 thousand** tons for **Coho Salmon**. These numbers represent a reduction in harvest for the period of 33 thousand tons for Coho Salmon, 70 thousand tons for Atlantic Salmon and 21 thousand tons for Trout.

In 2016, the average harvest weight for Atlantic Salmon was 4.7 kg, it was 3.2 kg for Coho Salmon and 2.6 kg for Rainbow Trout.

WFE = Whole Fish Equivalent: Unit used to measure the raw material, it corresponds to round bled live weight
% Accumulated Mortality = Total N° of dead fish / initial N° of fish transferred
Biomass Produced = Dead biomass + Harvested biomass + Living biomass at the end of a period
% Dead Biomass = Kg of dead biomass / Kg of biomass produced
°Smolt Stocking: transfer of fish (called smolts at this stage of their life cycle) to sea water farming sites to begin the growout stage

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