

Salmon in Laxá á Ásum 2020

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Introduction

Parr survey took place in Laxá á Ásum in august 3-6. 2020. The river was fished with electricity at 6 sites. See map at the end of this report. The sites are marked from 1 to 6. The parr were aged and density of the various year classes estimated. In addition to that we did some test fishing with electricity on six small sites near to the fishing place Hitaveitan for the sole purpose too see how the density of parrs on sites where people had noticed that did not harbour many salmon at the end of the fishing season These small sites are marked from 101-105 and 106 on the map. During the fishing the water level was a little above normal and conditions for electrofishing were fair.

The salmon catch in 2020

During the fishing season the water level was a little above normal. The fishing was good in the beginning with peak in the first week of July(1-7). After that the fishing gradually decreased throughout the season without any spikes at the end of the season like the summer 2019. There were 675 salmon caught in 2020. 553 salmon were released (82%). Of the 675 fishes that were caught there were 541 grilse (80%) and 134 salmon (20%). The classification between grilse and salmon is based upon size; grilse are those being less than 71 cm .long. One grilse was unusually small only 30 cm long and two salmon were around 100 cm (and weighted about 10 kg) Length distribution of the catch is shown in Fig. 1. The weekly catch of grilse (blue) and salmon(red) is shown in fig.2

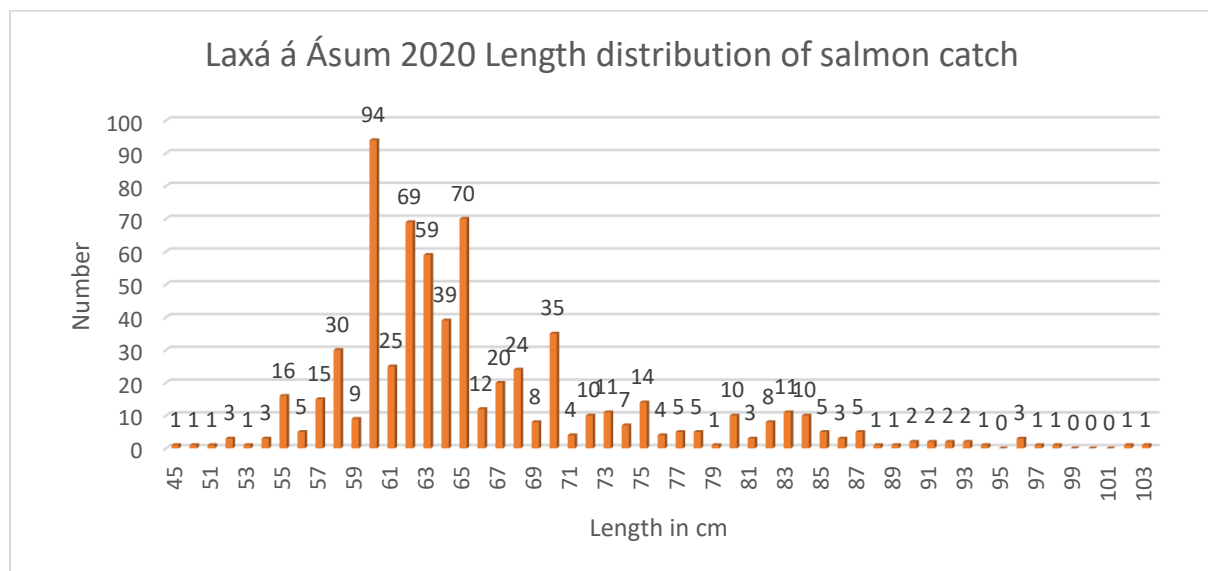


Fig.1 Length distribution of the catch

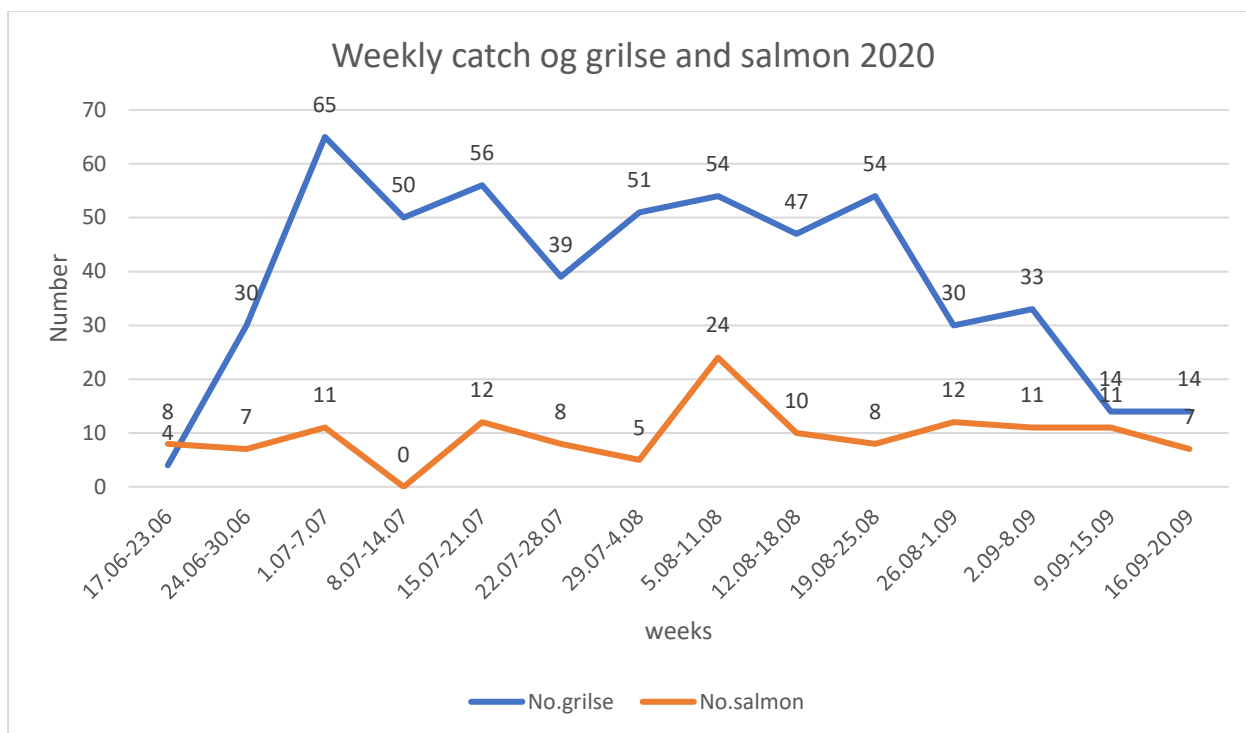


Fig.2.The catch of grilse(blue) and salmon(red) by week. Last week was 5 days.

The catch in neighbourhood rivers Vatnsdalsá and Víðidalsá oscillates in similar manner as the catch in Laxa á Ásum and the catch has been similar last decade (see fig.3). The catch in Laxa á Ásum decreased by 132 from last year.

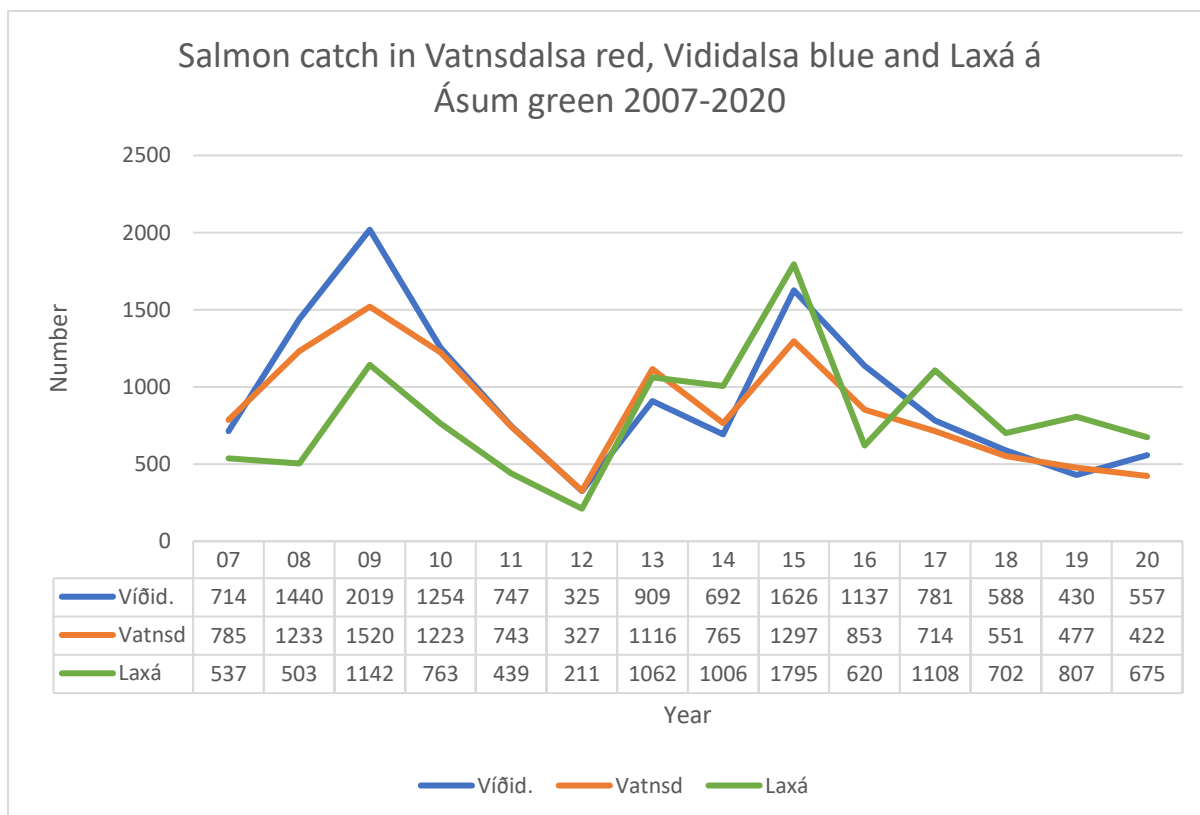


Fig 3. Salmon catch in Vatnsdalsá , Víðidalsá and Laxa á Ásum from 2007 to 2020.

Parr survey

Parr survey took place in Laxá á Ásum in august 3-6 2020. The river was fished with electricity at 6 sites. (sites 1 to 6 on map at the end of this report). The parr were aged and density of the various year classes estimated. During the test fishing the water level was average or probably little higher and conditions for electrofishing were fair.

Table 1 shows the results from the parr survey. (There were also 7 small trout caught from year classes 0⁺ to 1⁺).

Site no.	Name	Date	Areal	Age									
				0+		1+		2+		3+		Sum	Density
			m²	no	ml.	no	ml.	no	ml.	no	ml		no./100 m2
1	Húnsstaðahorn	03-Aug	30	28	4.2	4	6.5					32	107
2	Holt	05-Aug	40	72	3.9	5	6.2	3	8.3	3	9.6	83	208
3	Neðan við Krókhyll	04-Aug	40	36	3.7	5	6					41	103
4	Ofan Mánafoss	04-Aug	25	11	3.2	11	5.8	2	7.6	1	12	25	100
5	50 m. Neðan Tuma	04-Aug	30	6	3.4	17	5.8	2	9.1			25	83
6	Neðan Skotta	06-Aug	30	15	3.5	23	6.4	2	9.4	1	11.3	41	137
	Total		195	168		65		9		5		247	127
	No/100m2			86		33		5		3			

Tabel 1. Number(no) and mean length (ml) of salmon parr caught at various sites (1-6) in Laxá á Ásum
0⁺ = fry, 1⁺ = one winter old parr, 2⁺ = two winters old parr, 3⁺ = three winters old parr.

Growth is fair and fry's (age 0⁺) and parr's (age 1⁺, 2⁺ and 3⁺) are in average condition.

Most (around 60 to 70%) parr in Laxá á Ásum smoltify in spring at the age of 3⁺, around 30% at the age of 4⁺ and a small part at the age of 2⁺

The main food for the parr in August are common pond snail (*Lymnaea peregre*) and to a lesser extent segmented worms (*annelida*) and black fly (*Simuliidae*).

Length distribution of salmon parr caught in Laxá á Ásum is shown in figure 4.

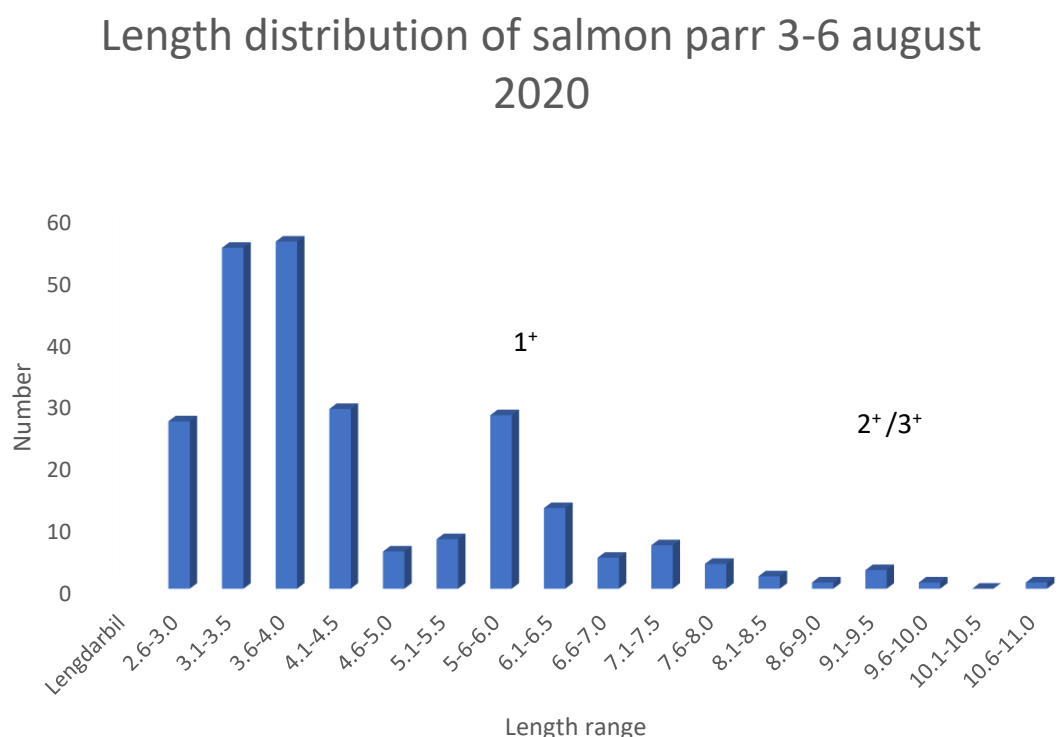


Fig 4. Length distribution of salmon parr caught in 2020.

Parr density

The catchability of parr depends on several factors including temperature, water flow etc. Each year, sampling conditions are different. The number of 0⁺ fish is often vastly underestimated due to the fact that they are small and are difficult to catch and some are still in the gravel. Estimate of the density of one- and two years old fish is more reliable, but most of the 3 years old will have left the river as smolts. The trend in parr mean density is plotted in fig. 5. Although the estimate of parr density is not an accurate figure, a clear trend can be seen through the years.

Fry's (0⁺) are unusually strong and one winter (1⁺) year class is strong and two winter (2⁺) year class is average.

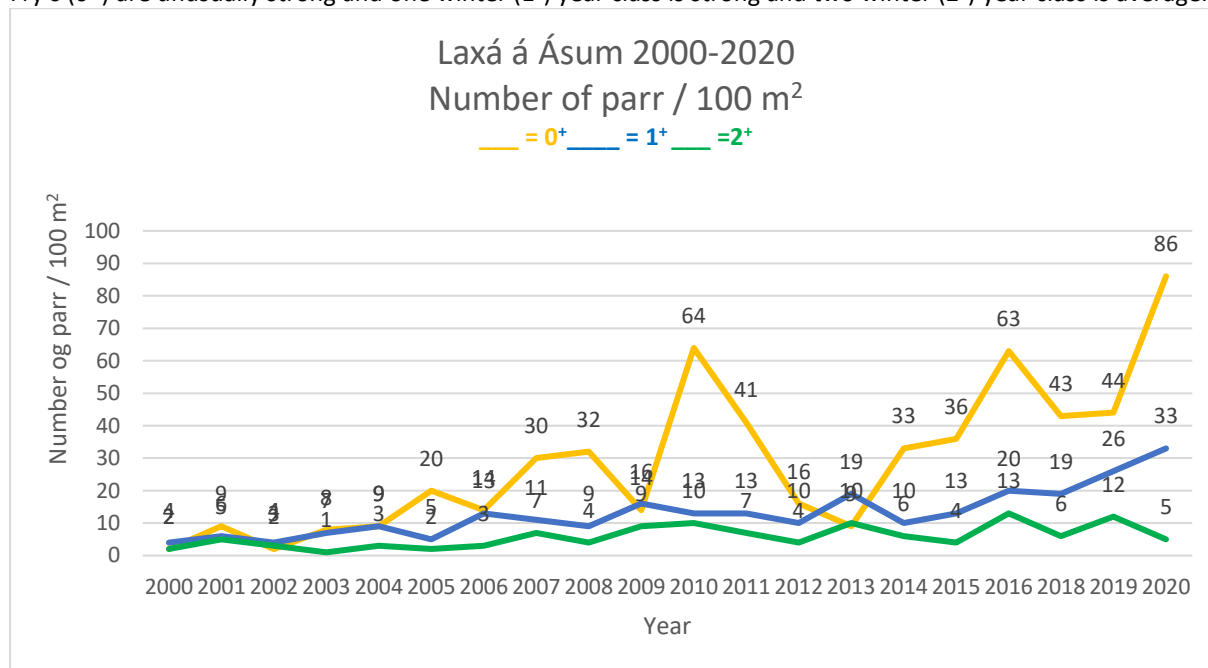


Fig.5 Mean density of parr in year 2000-2020 minus year 2017.

Yellow line is 0⁺, blue line is 1⁺ and green line is 2⁺.

Parr condition and numbers at the various survey sites.

The results from the electrofishing on sites 1-6 and also the test-electrofishing on sites 101-106 shows that the spawning in 2019 was very successful, probably the most successful since the year 2000 at least. There is a big difference in the density of frys (0^+) in upper part of the river Laxá (above Manafoss) and the lower part where the spawning seems to be far above the average. In the upper part the density of 1^+ parr is relatively high compared to the lower part. These facts can be easily spotted by looking at the length distribution on sites 1 - 3 which are in the lower part and sites 4-6 which are in the upper part. See fig 6 on next page

The test electrofishing on sites 101 to 106 also confirm that there was excessive spawning on these sites even though people thought that there would be few salmon in that area. The ratio between year classes at sites 101 to 106 is similar to those on site 1-3

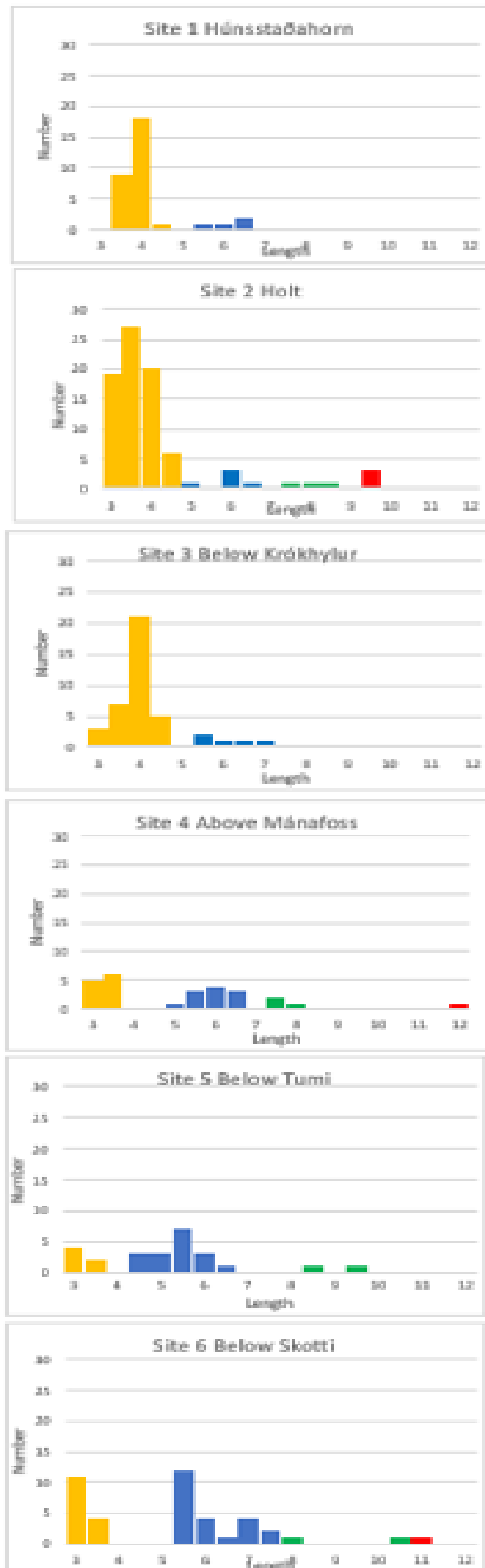


Fig 6 Length distribution of parr at sites 1-6. Site 1-3 are in lower part of the river. Site 4-6 are in the upper part.

Yellow = 0^+ Blue = 1^+ , Green = 2^+ , Red = 3^+

Below are pictures from Site 6 Below Skotti, showing the electrofishing site. Samples of parrs taken for age analysis and otoliths showing age rings.



Fig 7. Electrofishing sites below Skotti. Bottom consists of small stones 5 -10 cm in diameter.



Fig 8. Parrs fished below Skotti. The parr lowest on picture is 2 winters old and 10,6 cm long. Fig 9 shows otolith from it. The parr next to lowest is 3 winters old and 11,3 cm long. Fig 10 shows otoliths from it. The two uppermost parrs (7,1 and 7,9 cm) are 1 winter old and the parr in the middle is 8,1 cm long and 2 winters old, same age as the lowest one.



Fig 9 Otolith from 2 winters old parr 10,6 cm long

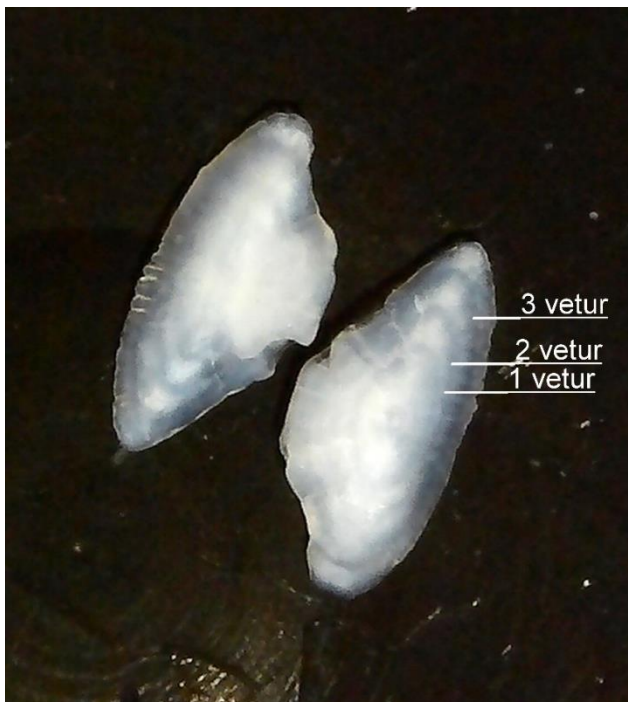


Fig 10 Otoliths from 3 winters old parr 11,3 cm long.

Water temperature.

River temperature at Holt was recorded at three hours interval 14.mai-5.august

The water temperature in May and June is very important for the smoltification process and the timing of the seaward migration of the smolts. From 14th of may until June the water temperature is little above average (unfortunately we have no data for first half of May) so it is assumed that the smoltification was at least normal.

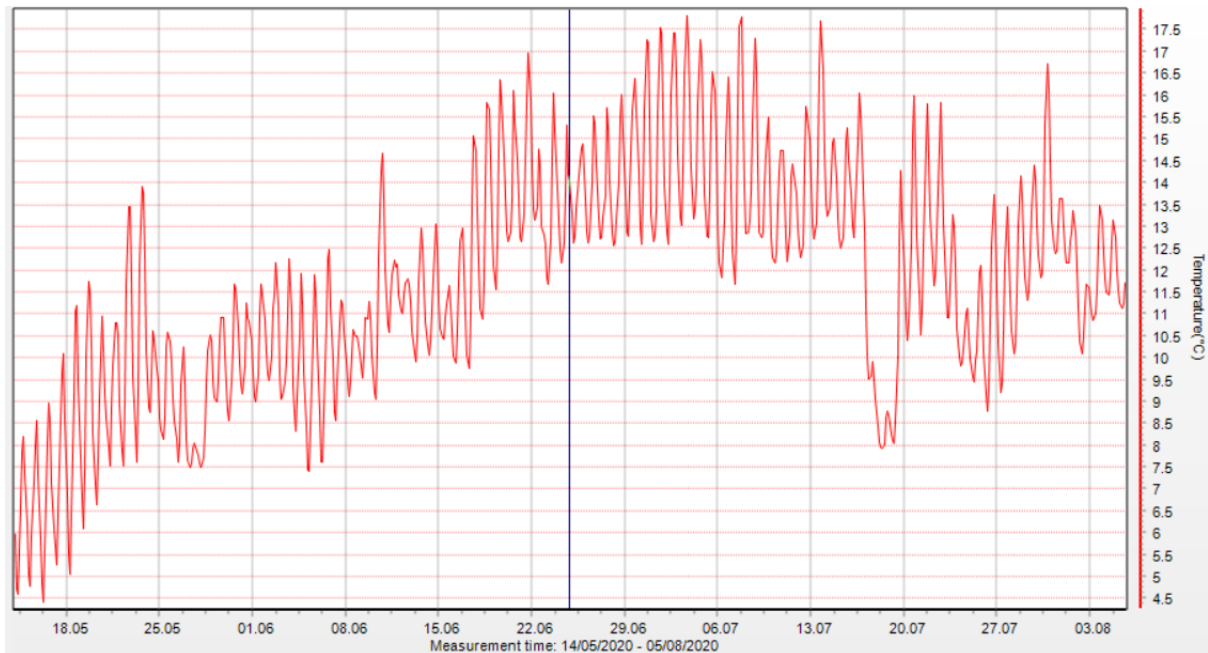


Fig 11 Water temperature in Laxá á Ásum 14/5 till 5/8 2020. Measured at 3 hours interval. 12.00, 15.00 and so forth. Right axis show temperature between 4-20.5° C

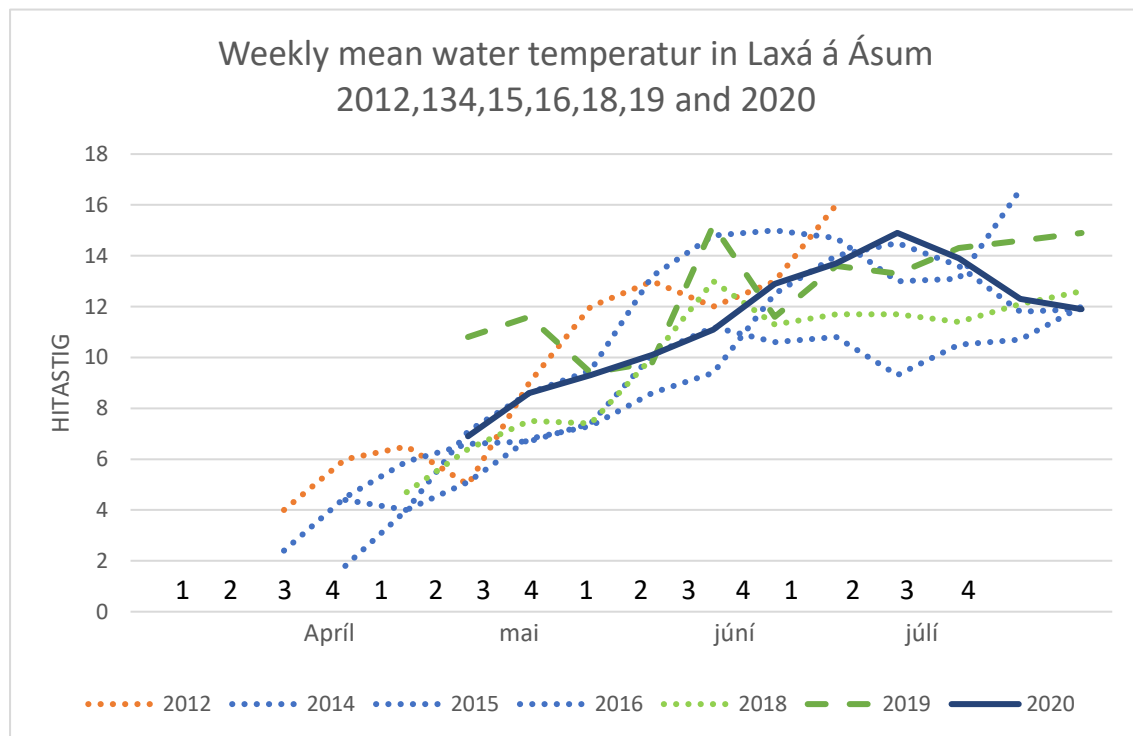
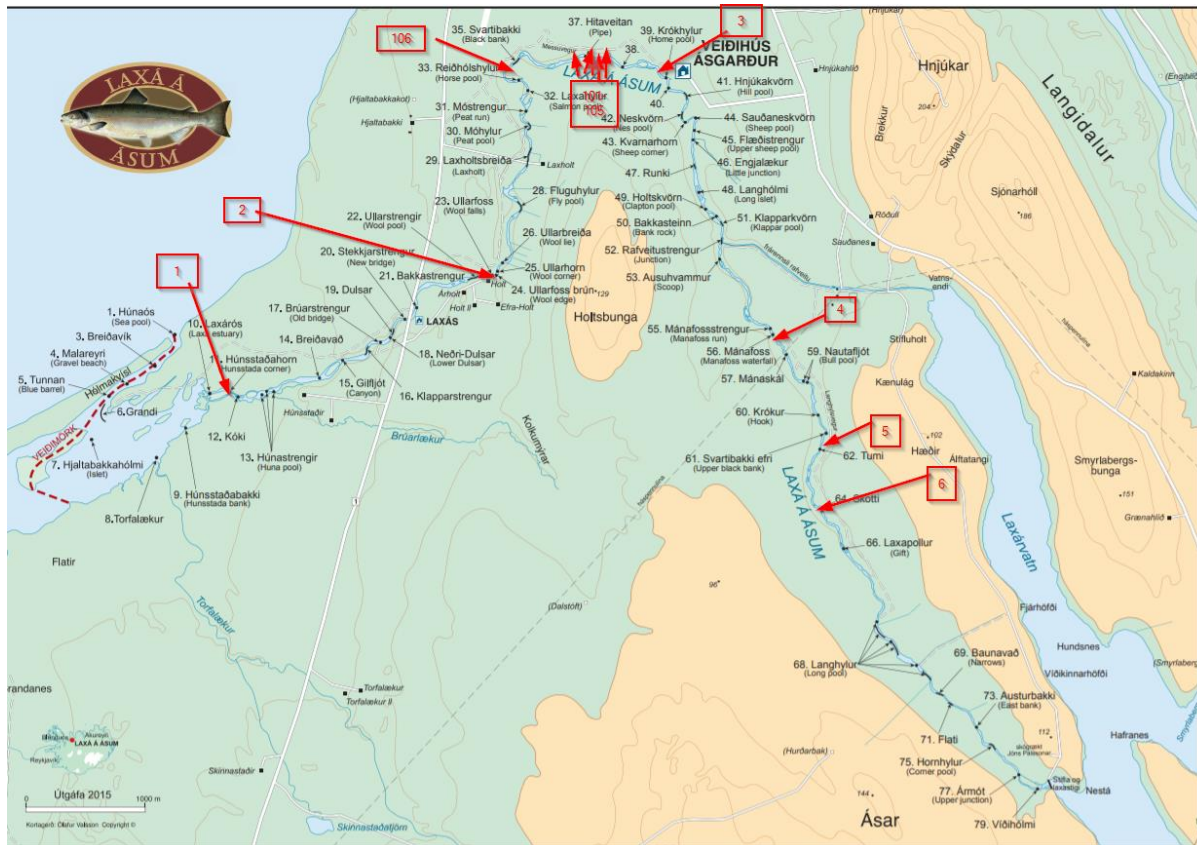


Fig 12 weekly mean temperatures



Map which shows fishing sites in river Laxá á Ásum. The sites are marked with red colour from 1 -6. The sites from test fishing are marked from 101 -106. Sites 1-3 and 101-106 are in lower part of the river. Sites 4-6 are in upper part of river.