

# OR Annual report 2020

## Appendices



### Sewage treatment, overflows and sea water quality



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Cover photo: Fjóla Jóhannesdóttir

# RE and subsidiaries' area of operations



# Sea water quality along Reykjavík's coastline and on the periphery of dilution areas in Faxafloi bay

The percentage (%) of samples below limits, i.e., less than 100 in a 100 ml sample at the coast by Reykjavik and less than 1000 in a 100 ml sample at the periphery of dilution areas for the period 2015-2020. In 2020 sample analysis revealed that over 90% of samples were below the permissible values.

Samples	Heat-tolerant microbes		2015	2016	2017	2018	2019	2020
<b>At the coast and by the discharge point</b>								
RDEP and	Faecal coliforms	%	92	85	81	87	90	93
Veitur Utilities	Enterococci	%	96	95	96	96	99	97
<b>At the periphery of dilution areas</b>								
Veitur Utilities	Faecal coliforms	%	97	100	100	97	100	100
	Enterococci	%	100	100	100	100	100	100

RDEP: Reykjavik's Department of Environment and Planning

# Chemicals and trace elements from sewage treatment plants in Reykjavik 2020

Discharge of pollutants (mg/l) from sewage treatment plants in Reykjavik in 2020. The average flow in Klettagardar was 1,465 l/sec and in Ananaust 1,179 l/sec. Calculations are based on results of chemical and trace element analysis from treated sewage samples, collected four times a year for nitrogen and phosphorus analysis and twice a year for trace element analysis.

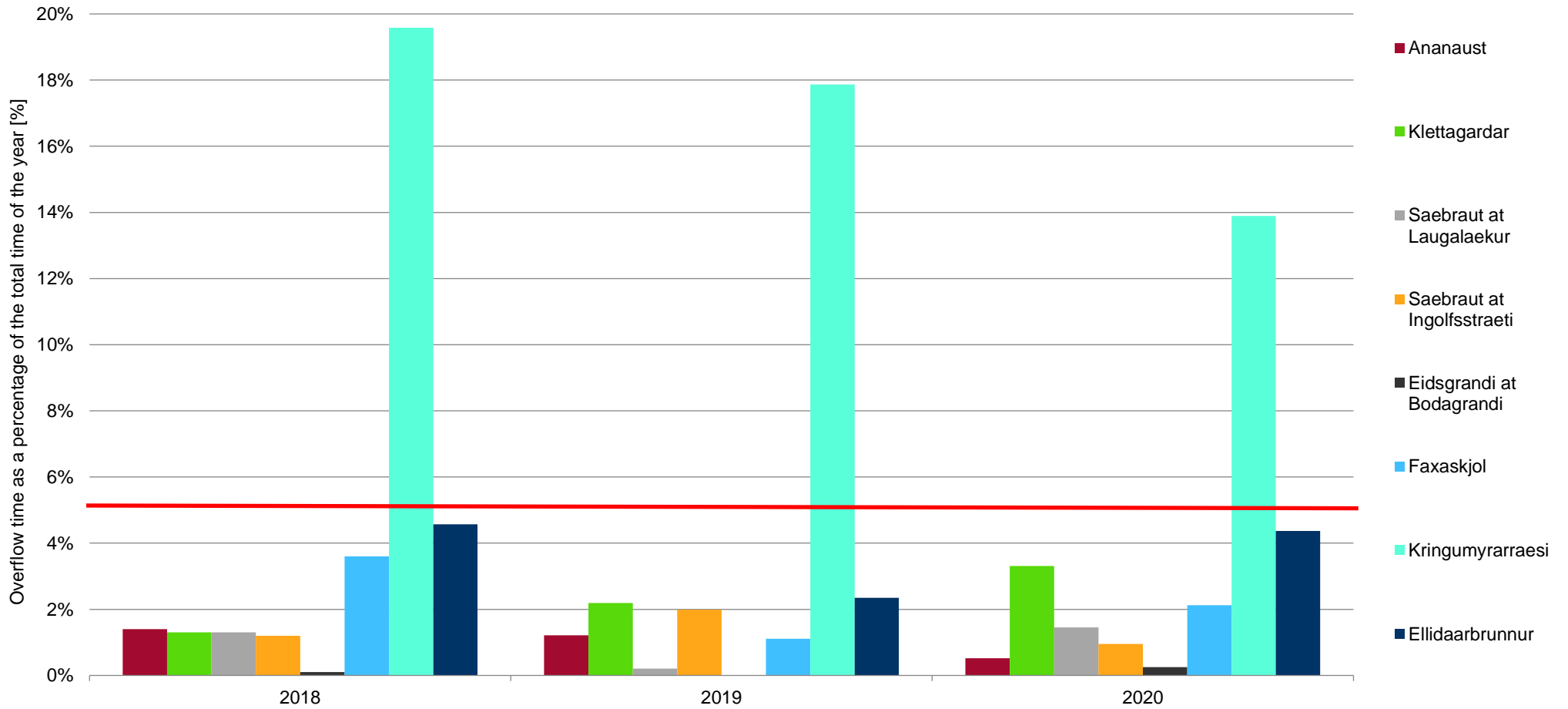
	January mg/l	March mg/l	June mg/l	September mg/l	Average mg/l
<b>Klettagardar</b>					
Total nitrogen (N)	8.5	12.1	14.1	15.3	12.5
Total phosphorus (P)	1.1	1.3	1.4	1.3	1.3
Arsenic (As)		<0.05		<0.05	Below the detection limit
Cadmium (Cd)		<0.001		<0.001	Below the detection limit
Chromium (Cr)		0.0240		<0.005	Below the detection limit
Copper (Cu)		<0.005		<0.005	Below the detection limit
Mercury (Hg)		<0.0005		<0.0005	Below the detection limit
Nickel (Ni)		<0.005		<0.005	Below the detection limit
Lead (Pb)		<0.005		<0.005	Below the detection limit
Silver (Ag)		<0.01		<0.01	Below the detection limit
Zinc (Zn)		0.02		0.02	0.02
<b>Ananaust</b>					
Total nitrogen (N)	7.4	8.1	11.4	13.8	10.2
Total phosphorus (P)	1.2	1.2	1.8	1.9	1.5
Arsenic (As)		<0.05		<0.05	Below the detection limit
Cadmium (Cd)		<0.001		<0.001	Below the detection limit
Chromium (Cr)		<0.005		<0.005	Below the detection limit
Copper (Cu)		<0.005		<0.005	Below the detection limit
Mercury (Hg)		<0.0005		<0.0005	Below the detection limit
Nickel (Ni)		<0.005		<0.005	Below the detection limit
Lead (Pb)		<0.005		<0.005	Below the detection limit
Silfur (Ag)		<0.01		<0.01	Below the detection limit
Zinc (Zn)		0.02		0.02	0.02

- When both samples collected are below the detection limits, the column "mean value" states "below the detection limit".

# Release from Veitur utilities' sewerage systems

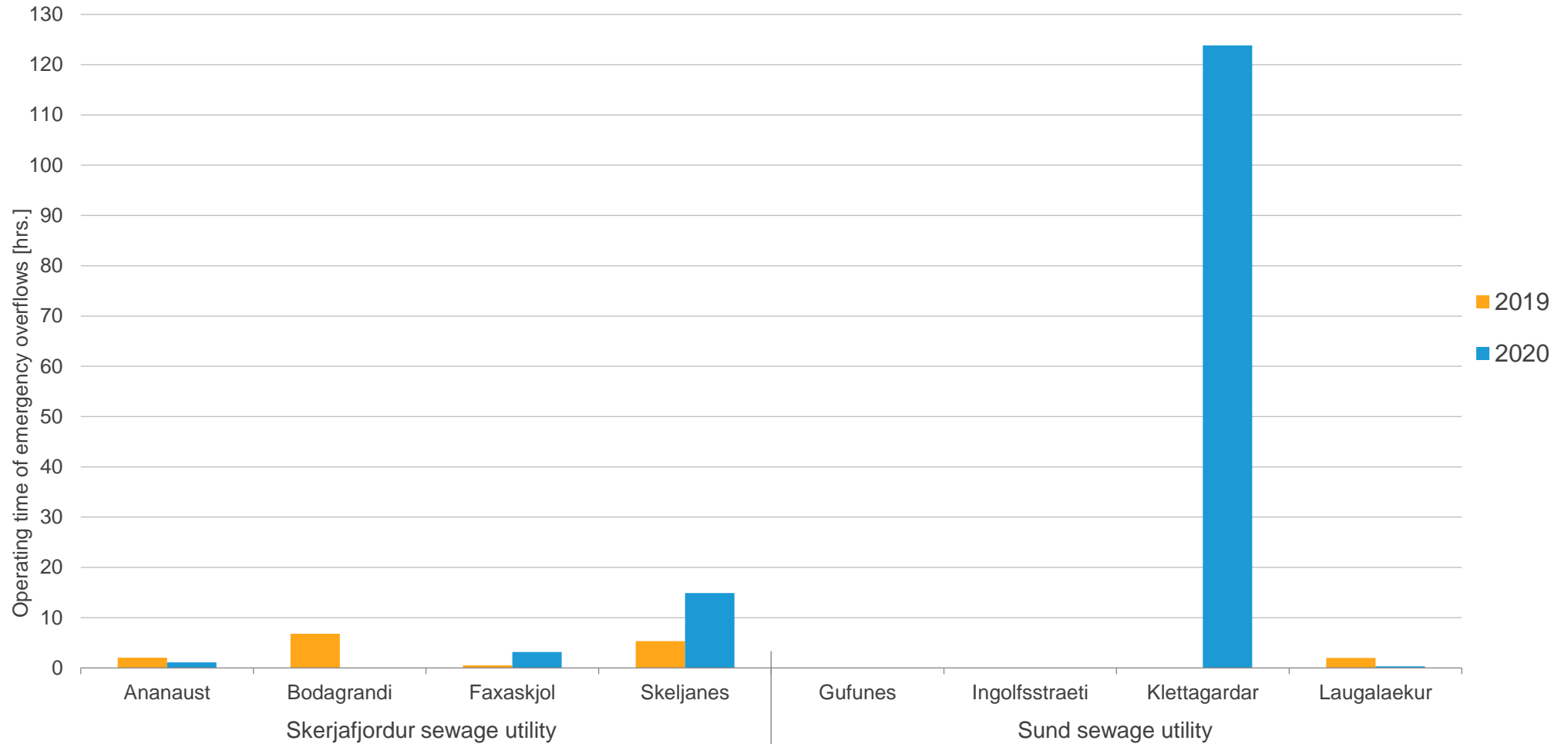
In 2020, the discharge of effluent through Kringlumýrarræi overflow in Reykjavík was above the limits set by Veitur Utilities. According to regulation no. 798/1999 on Sewerage systems and Sewage, overflow in the sewerage system may be active for up to 5% of the time of the year, or when the sewage mixed with hot water from district heating utilities or rainwater is at least on a ratio of 1:5.

## Release via overflows in Reykjavik 2018-2020



The quantity of disinfectant and wet cloths in addition to other waste in the sewerage system multiplied in 2020, resulting in a temporal inoperability of Veitur Utilities' Klettagardar sewage treatment plant with untreated sewage flowing directly to the sea via emergency overflow. Emergency overflows at Bodagrandi, Gufunes and Ingolfsstraeti were inactive throughout the year. Emergency overflows at Ananaust, Faxaskjol, Skeljanes and Laugalaekur were active for less than 15 hours during the year, which is not in accordance with Veitur Utilities' objectives, that emergency overflows should remain inactive.

## Emergency overflow activity in Reykjavik 2019-2020



In 2020, the discharge of wastewater via overflows in West Iceland was within Veitur Utilities' established limits. According to regulation no. 798/1999 on Sewerage systems and Sewage, overflow in the sewerage system may be active for up to 5% of the time of the year, or when the sewage mixed with hot water from district heating utilities or rainwater is at least on a ratio of 1:5. Emergency overflows in West Iceland were inactive throughout the year.

## Release via overflows in West Iceland 2020

