Veiðifélag Eystri Rangár

Eyjarland Facility Annual Overview 2024

Overview

Eyjarland fish farm produces only one generation of Icelandic salmon over a year. In the year 2024 the amount of eggs taken into the hatchery was documented to be 815000, this number will be spoken about later on in the report.

The operation of Eyjarland was difficult this year. Red mouth (Yersinia ruckeri) occurred during the year and we also had a SGPV infection. All tanks in the farm were infected during this outbreak (Excluding fry for 2025). In the Middle of winter, symptoms of POX (salmonid gill poxvirus) were noticed in three of our outdoor tanks. Over the next month all of the outdoor tanks were infected. Approximately 340000 fish were produced at Eyjarland with a biomass of 11.6 tons. 120000 fish were produced at Laxeyri with a biomass of 5 tons. Live fish biomass: 16.6 tons. Losses during the year 5.8 tons. Total production during the year was: 22.4 tons. This is over our licensed biomass and will be addressed in this report.

Feed Consumption

Feed consumption was 24.6 tons. The starter feed comes from Laxá ehf **(MISSING LEDGER)** and the smaller feed from Ewos from Fóðurblandan. Clock feeding is done on all tanks and feed efficiency is calculated at approximately 1.2

Feed type is varied depending on fish size. We use Ewos feed from 0.3 mm to 2 mm from Fóðurblandan. Grids in the floors and tank bottoms are changed depending on the size of the fish and feed we are using.

Feed Type	Kilograms	Number of Bags
EWOS Micro 0.15	400	20
EWOS Micro 0.40	3120	156
EWOS Micro 1p	7400	370
Mini 1.6	6870	229
Mini 2	6810	227

Staff

There were major changes in staff during this year, including: new management, removal of old staff and hiring of new personnel. New staff were trained in proper practices for aquaculture and biosecurity. Periodic training of staff is done to have the best result. New work procedures and methods were introduced for the best welfare of the fish and environment outside of the facility. We continue to increase our documentation and training procedures as we implement better practices.

Risk Assessment and Response Plan

Our risk assessment and response plan has been updated and generally stayed the same. We are standing in a better situation at the end of this year than last as we have added sufficiently sized grates for waterway protection from fish escape. Our response plan has all standard equipment and emergency equipment in place.

Chemical Use

In the first half of the year mainly Biocid was used for cleaning. Changes were made due to the outbreak of SPGV and we started using Virocid. For cleaning Bio CiD S is used and Virocid for disinfecting. After Red Mouth and SGPV outbreaks occurred disinfectant chemical usage increased compared to previous years. Formalin is used for bathing fish to control fungal growth and before transporting fish to the river. Peracetic Acid is used daily in minimal amounts to control bacterial loads that may be present during treatments.

Chemical usage: A ledge of all chemicals ordered in 2024 is provided. Usage listed below

Bio Cid S: 45 L

Virocid: 75 L

Formalin 37%: 45 L

Maurasyra 78%: 130 L

Peracetic Acid 15%: 80 L

Phenoxyethanol: 1.7 L

Formalin and Maurasyra had been purchased in drums that are too large for our chemical cabinets. We've started to re-bottled those chemicals into smaller containers that have been used to hold the same chemical or that have not been used before.

Oxytetracycline was prescribed by our veterinarian, Arni Mathiesen, and used in accordance with his instruction and supervision for the treatment of Red Mouth disease in juveniles. Due to persistent efforts and expert supervision we achieved satisfactory results. The facility was tested and all tanks were negative.

Pollution

No complaints were received regarding operations in Eyjarland. Documentation was lacking but later this was rectified with the company that cleaned our settling ponds. There is still a question as to if the company disposed of the waste correctly. That matter is not connected to the Eyjarland hatchery..

We got a plastic recycling bin in November. We only were able to recycle around 400 bags of the 1002 bags used this year. We will recycle 100% of future plastic, paper and metal waste as we have standing contracts with Terra and local municipalities.

We had two incidents that caused mortality of the fry for 2025. Due to the nature of the timing of the incidents the biomass of the mostaility was minimal and had little effect on our total dead fish waste that we send to be recycled at Acticfish.

Dead fish and Waste

All mortality is stored in special containers and titrated with Formic acid until it reaches a pH of approximately 4. Everything is delivered to Lysi or Arctic Fish, located in Þorlákshöfn. Delivered amounts and approximate weights were documented after the month of September. Documentation from before that time is missing. **(MISSING LEDGES FROM ARCTIC FISH before March 2025)**

Biosecurity and Fish Welfare

Many improvements were done regarding biosecurity. Full uniforms were purchased for employees. Overcoats, PPE and winter gear were mostly present at the facility. Additions to the supply have improved and now individual departments have separate attire.

A changing room was added to the entry of the first biosecurity checkpoints. Each department has its own biosecurity checkpoint and foot bath.

Rules and procedures were heightened to prevent cross-contamination. Cleaning all tools and surfaces is a day task throughout each department. Without these improvements the eradication of the infections throughout the facility couldn’t have been possible.

Water Samples

We reached maximum biomass at the end of May. It will take approximately two weeks to deliver the fish to the river. Delivery time can depend on the water temperature in the river and the speed and availability of the transport company. After the transfer, we will have extremely low biomass in the facility. At this time we will take advantage of this and renew the facility, raising its functionality and reliability. Both Maximum and minimum biomass water samples have been taken and sent for analysis. The results are not much of a change from the prior years trends. Due to this the company that is taking over the facility has plans to install a drum filter to remove pollution.

Affluent water from lowest biomass used from June 2024

Sýni nr.		Mæling	Niðurstöður	Mælieining	Aðferð
25-6715		Fresh water - 15.05.25, at 09:30			
		Svifagnir (TSS)	2	mg/L +/- 23%	EN 872:2005
		COD	13	mg/L +/- 15%	HACH - Aðferð 8000
		Heildar fosfór P	0,1	mg/L +/- 10%	HACH - Aðferð 8190
		Heildar köfnunarefni N	2,0	mg/L +/- 18%	HACH - Aðferð 10071
	*	pH	9,2		
	*	Ammoníak NH_3-N	0,03	mg/L	HACH - Aðferð 10023
25-6716		Efluent- 15.05.25, at 09:35			
		Svifagnir (TSS)	3	mg/L +/- 23%	EN 872:2005
		COD	< 3	mg/L +/- 15%	HACH - Aðferð 8000
		Heildar fosfór P	0,1	mg/L +/- 10%	HACH - Aðferð 8190
		Heildar köfnunarefni N	1,2	mg/L +/- 18%	HACH - Aðferð 10071
	*	pH	8,5		
	*	Ammoníak NH_3-N	0,16	mg/L	HACH - Aðferð 10023

Fresh and Affluent water from Highest Biomass 2025

Sýni nr.		Mæling	Niðurstöður	Mælieining	Aðferð
24-7134		Effluent water - Lowest biomass, 10.06.2024 kl.09:00			
		Svifagnir (TSS)	1	mg/L +/- 19%	EN 872:2005
		COD	< 3	mg/L +/- 15%	HACH - Aðferð 8000
		Heildar fosfór P	0,2	mg/L +/- 11%	HACH - Aðferð 8180
		Heildar köfnunarefni N	< 0,5	mg/L +/- 18%	HACH - Aðferð 10071
	*	pH	8,5		
	*	Ammoníak NH_3-N	0,15	mg/L	HACH - Aðferð 10031

Overview of the results:

- Nitrogen and Phosphorus amount is below release limits by volume and meet requirements.
- Oxygen saturation of effluent water is above 80% and meets the requirements.
- PH. Changes from 9.2 to 8.5. Above the limit. By the regulation maximum change: 0.5 for acidity.
- NH3: Above the limit. Should be less than 0.025. We have 0.03 in our fresh inlet water. Effluent water has increased to 0.16 mg. COD below maximum limit.
- Oil and grease residue is not seen in water.

Eyjarland Water Pollution for in 2025

The total Nitrogen that reached the environment is calculated at 1037.75 kg.
This is below the limit of 1086 kg.
Nitrogen: 46.33 kg/ton of produced fish.
This is Below the limit of 60 kg/ton

The total Phosphorus that reached the environment is calculated at 192.18 kg.
Above the limit of 126 kg
Phosphor: 8.58 kg/ton of produced fish.
Above the limit of 7 kg/ton

Limites:(Wang et al. 2012)

Facility Issues for 2024

We had two major issues that caused mortality in our fry this year. The first was due to the lack of proper labeling on valves and resulted from human error. This resulted in the loss of 660000 eggs. The second related to failing equipment providing hot water for the facility. Repairs have been made and improvements are in planning. This resulted in a loss of 32000 alvin. Unfortunately this leaves approximately 118000 fry for the 2025 year.

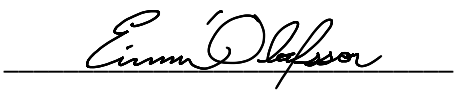
Future Plans

The Veiðifélag Eystri Rangá has rented its facility and submitted, to UOS and MAST, paperwork for the transfer of operating license and permits. The new company running the facility has plans to improve the infrastructure of the facility and update the older parts of the facility, including a drum filter to remove waste and decrease the amount of pollution into the waterways.

They have improvement plans to the facility that include a laboratory space for more advanced inhouse testing, water quality testing and biosecurity efficiency monitoring.

Technology will be phased into the adaptations of the facility. Electronic Monitoring systems will provide early warning systems to prevent the loss of fish. Current advancements in computerizing recorded information at the time of collection to remove the majority of the paper and move to digital records that are transferred to hard copy. This reduces waste and improves validity and legibility of records by the company. You can't manage what you don't track.

Veiðifélag Eystri Rangá



Eyjarland, 26/04/2024

Einar Olafsson