UNIVERSITY OF GOTHENBURG

SWEMARC
SWEDISH MARICULTURE RESEARCH CENTER

HAPPY SALMON

Physiology shapes the happy salmon – a systems approach to sustainable feeds for stimulation of growth, welfare and survival in salmon

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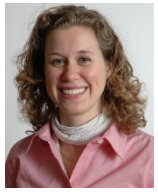
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SWEDISH ALGAE FACTORY


Sofie Allert

SKRETTING
a Nutreco company


Vibeke Vikeså

ArcticFish


Sigurður Pétursson

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Aim

- Our aim is to contribute with knowledge and solutions for a successful Atlantic salmon smolt production using novel sustainable feeds that are applicable in modern recirculating farming systems.

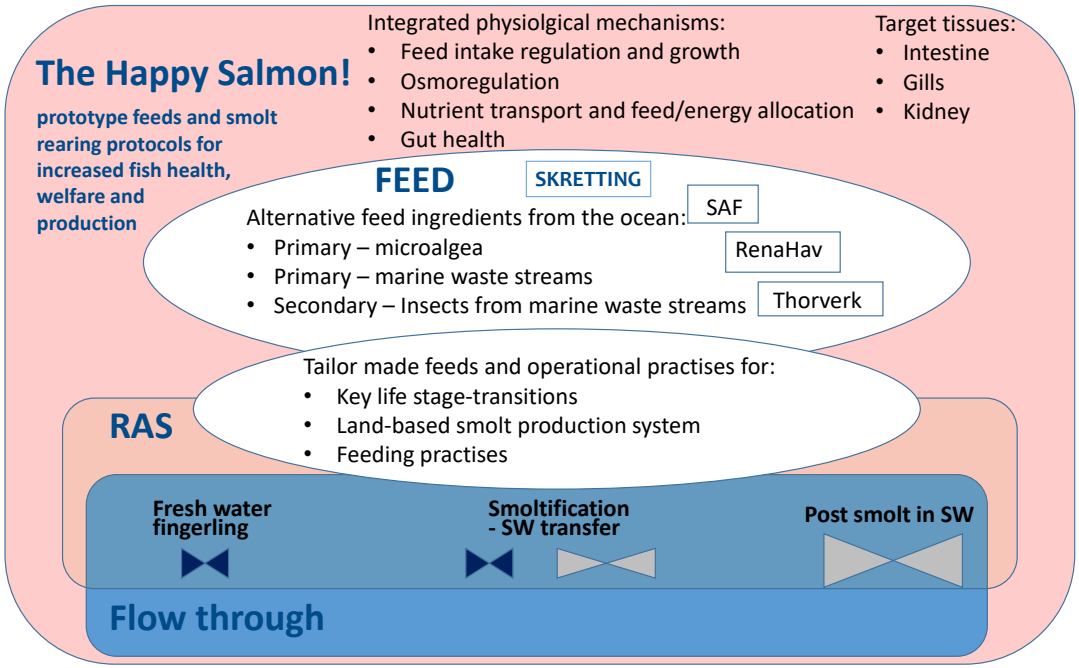
- We will focus on physiological mechanisms underpinning robust smolt to understand how to overcome bottlenecks during FW to SW transition and securing optimal health and growth.

Photo: Fredrik Jutfelt

Impact

- A more ethical salmon production as well as increased production efficiency of the sector, through innovative prototype feeds and improved smolt production protocols.

- New scientific knowledge about the fundamental biology of the fascinating smoltification process, in addition to applicable results for the industry.



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Workpackages & objectives

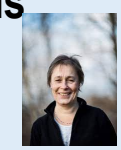
WP1: Alternative ingredients and new feeds.
WP leader: Markus Langeland

Objective: Formulate sustainable feeds based on a circular feed concept, recapturing nutrients otherwise lost to the food chain using microalgae, insects and modern process technology.

WP2: Physiological functions behind good fish health and welfare.
WP leader: Henrik Sundh

Objective: Use integrative physiological techniques to assess osmoregulatory and appetite/growth physiology and gut health to determine optimal time point for transfer of smolts to SW.

WP3: Intestinal physiology, growth and appetite assessment of alternative marine based feeds
WP leader: Kristina Snuttan Sundell



Objective: To screen the experimental diets based on the selected marine derived raw materials in order to select the most promising feeds regarding appetite, growth and gut health.

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Workpackages & objectives cont.

WP4: Identifying effects of production protocols in fresh water on smolt quality.
WP leader: Olafur Sigurgeirsson.

***Objective**:* Evaluate the impact of high intensive smolt production protocols on development of hypo-osmoregulatory functions in gill, gut and intestine, and the timing between these tissues. Effects of size, feeding and light regimes.

WP5: Mitigating effect of selected novel alternative feeds on salmon performance from FW to SW post smolts, in RAS.
WP leader Tom Ole Nilsen

Objective: To present innovative prototype feeds and smolt production protocols that function well in RAS, using selected protocol/s from WP4.

WP6: Responsible Research and Innovation.
WP Leader: Dorothy J. Dankel

Objective: Create a common foundation of RRI within the project, as well as communication tools for outreach, incl. a stakeholder interaction plan. Includes targeted activities for PhD-students.

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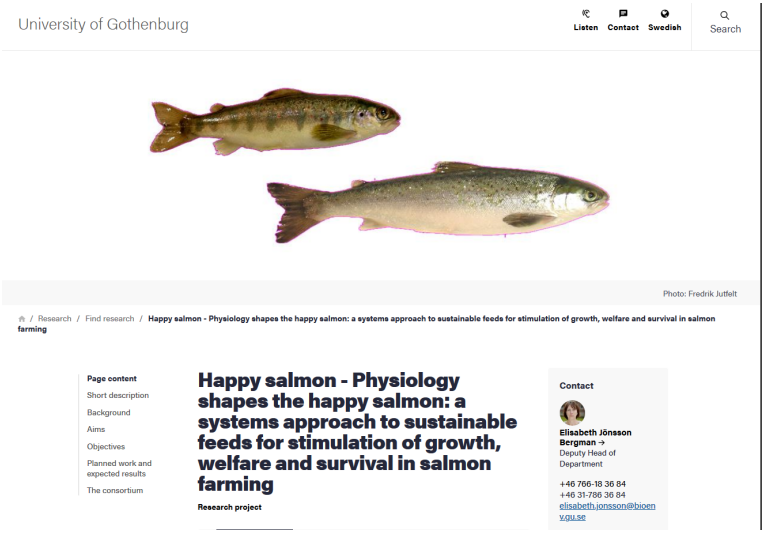
Website (we are working on a shorter link):

https://www.gu.se/en/research/happy-salmon-physiology-shapes-the-happy-salmon-a-systems-approach-to-sustainable-feeds-for-stimulation-of-growth-welfare-and-survival-in-salmon



Planned aquaculture conferences:

Swedish National Aquaculture Conference, March 2022.

The EAS - European aquaculture conferences ”Aquaculture Europe”

Others, TBD