



State-of-play of innovative technologies in aquaculture

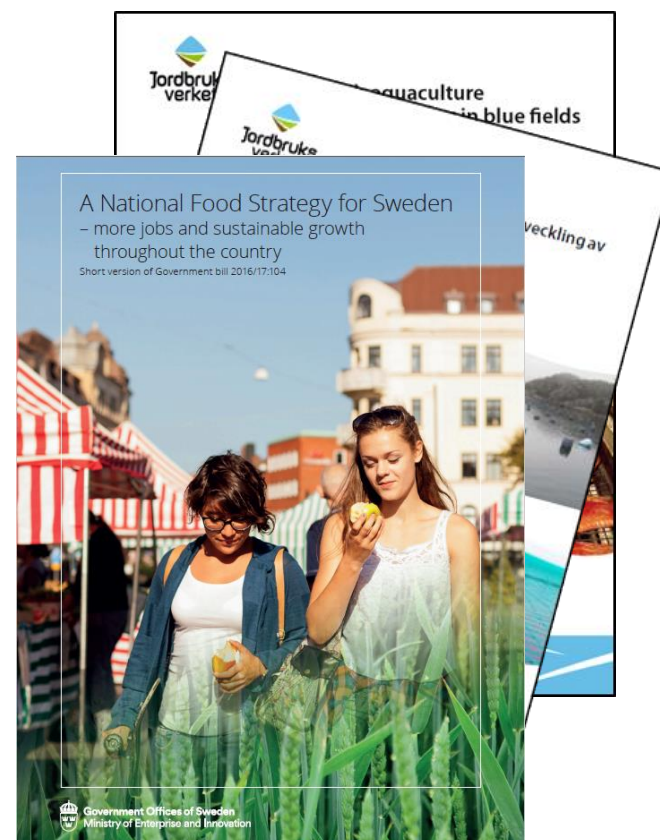
Sweden

Blue Platform Workshop: 'Innovative Technologies in Aquaculture'
17 November 2020

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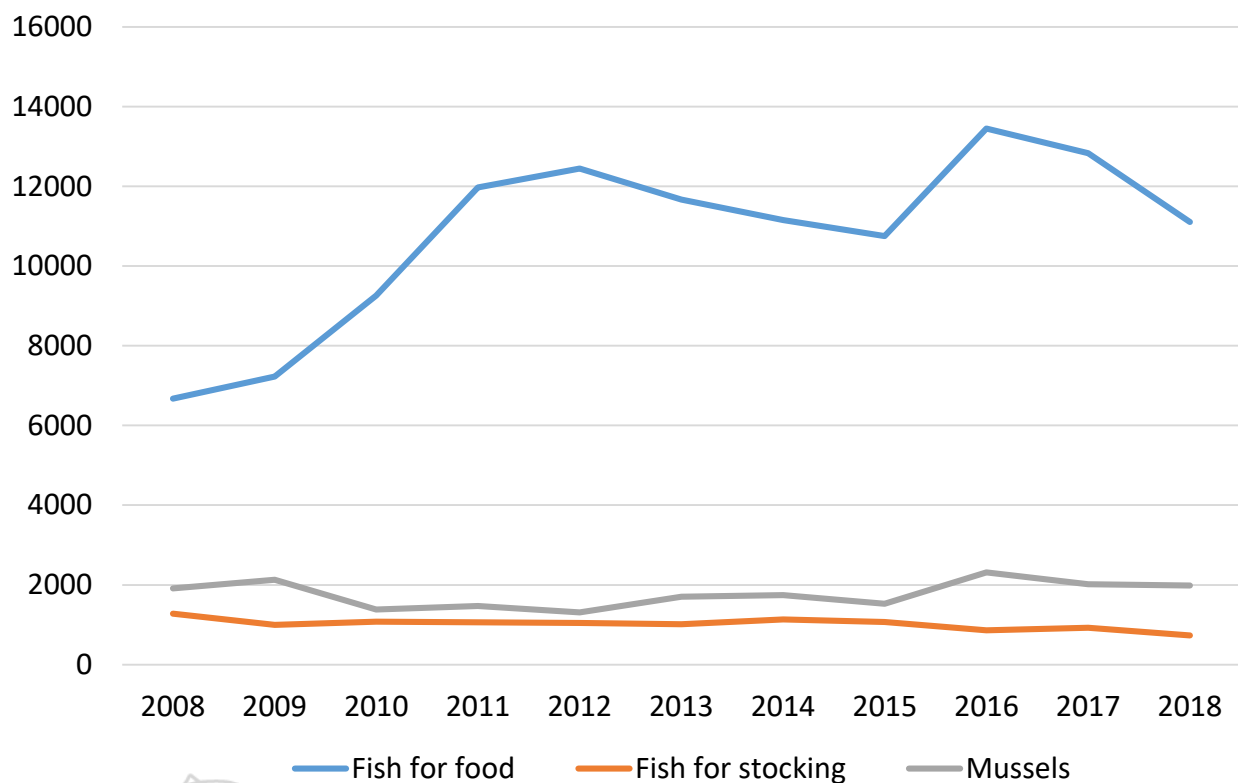
Swedish Board's of Agriculture work for sustainable development of Swedish aquaculture

- [Swedish aquaculture – a green industry in blue fields. Strategy 2012-2020](#)
- [An action plan for sustainable development of Swedish aquaculture \(substantializes the goals of the strategy\)](#)
- [A National Food Strategy for Sweden](#)
- "The future of fishery and aquaculture", a common strategy for fishery, aquaculture and recreational fishing
- European Maritime and Fisheries Fund (EMFF)



Swedish aquaculture in numbers

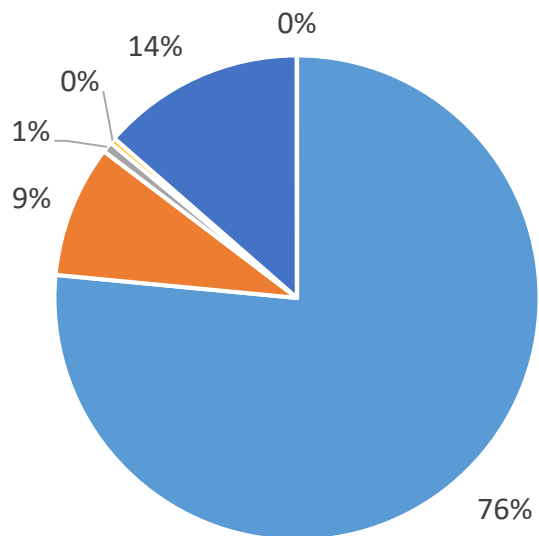
Production volume (number of t produced)



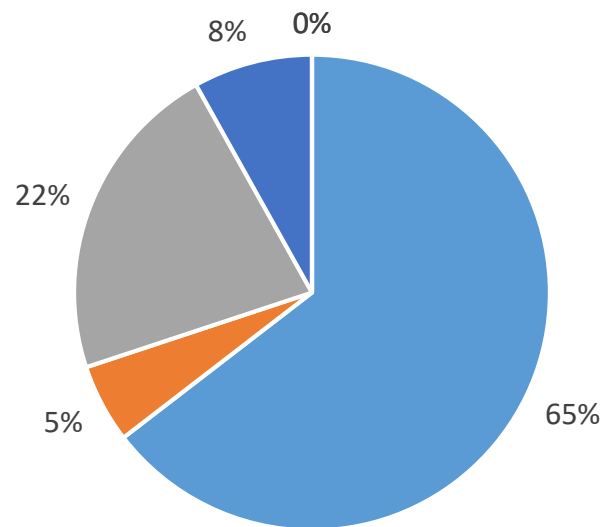
Swedish aquaculture in numbers

Productions trends

Production for consumption 2018



Production for stocking 2018



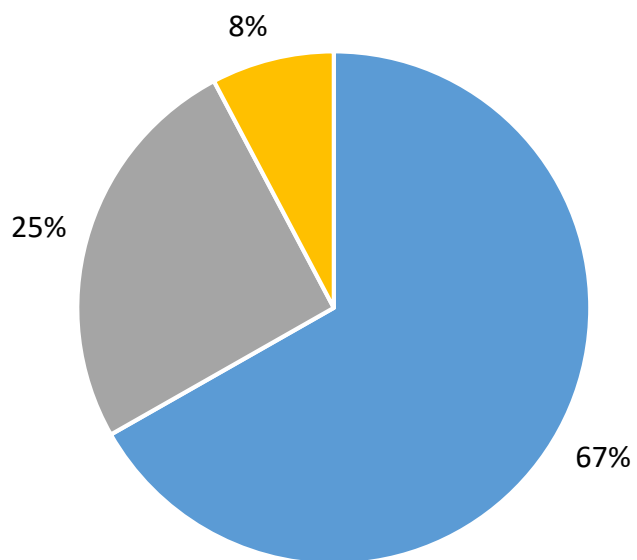
- Rainbow trout
- Arctic char
- Eel
- Other
- Mussels
- Crayfish

- Rainbow trout
- Atlantic salmon
- Brown trout
- Eel
- Arctic char
- Other
- Crayfish

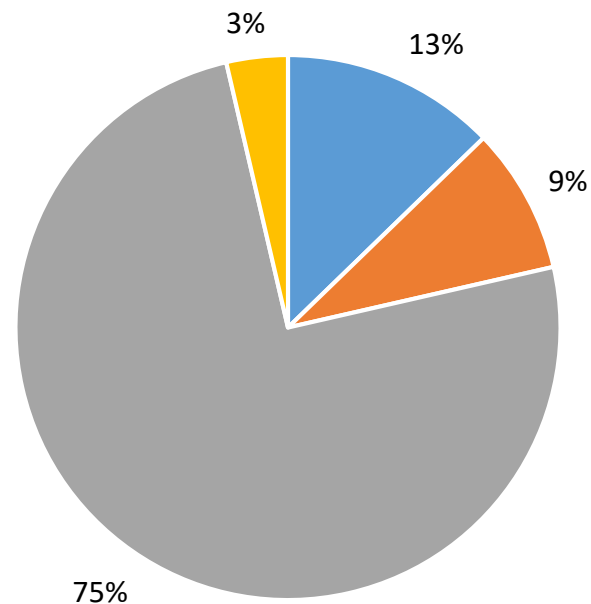
Swedish aquaculture in numbers

Techniques

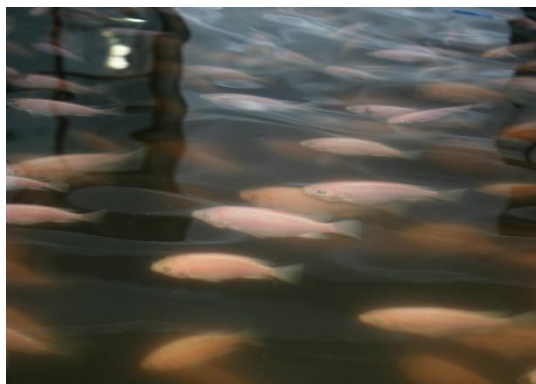
Production techniques
(consumption)



Production techniques (stocking)



Swedish aquaculture – a diversified industry



Swedish aquaculture – a diversified industry

The farming techniques under development in terms of:

- water treatment systems
- facility types
- water consumption
- diversification of species
- integration between species
- ...



Swedish aquaculture – a diversified industry

- ❖ Fish cages
- ❖ Land-based systems
- ❖ Extensive farming
- ❖ IMTA (integrated multitrophic aquaculture)



Swedish aquaculture – a diversified industry

Land-based systems are available in many forms:

- ❖ flow-through systems with or without treatment of the outgoing water,
- ❖ partial or fully recirculating systems:
 - RAS,
 - Biofloc,
 - Aquaponics



Legislation – one of the biggest challenges

- !! Difficulties related to regulations and implementing new production techniques at a commercial scale
- !! Administrative burdens and governance has been pointed out as high.
- !! Current regulations are not designed in an optimal way in order to be able to handle the technical developments

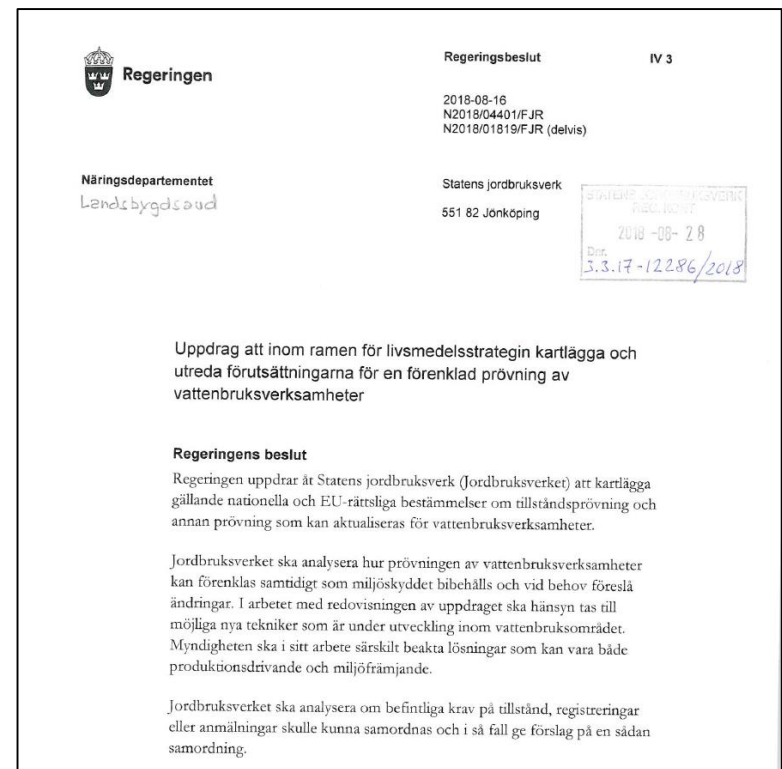


Several challenges and obstacles have been highlighted, only a few of them are presented

Legislation – one of the biggest challenges

...investigation on how the regulations are adapted and whether the administration can be simplified

Accomplished in September 2020 !!!



Regeringen

Regeringsbeslut IV 3

2018-08-16
N2018/04401/FJR
N2018/01819/FJR (delvis)

Näringsdepartementet
Landsbygdsönd

Statens jordbruksverk
551 82 Jönköping

STATENS JORDBRUKSVERK
FACIT
2018-09-28
Dir: 3.3.17-12286/2018

Uppdrag att inom ramen för livsmedelsstrategin kartlägga och utreda förutsättningarna för en förenklad prövning av vattenbruksverksamheter

Regeringens beslut


Regeringen uppdrar åt Statens jordbruksverk (Jordbruksverket) att kartlägga gällande nationella och EU-rättsliga bestämmelser om tillståndsprövning och annan prövning som kan aktualiseras för vattenbruksverksamheter.

Jordbruksverket ska analysera hur prövningen av vattenbruksverksamheter kan förenklas samtidigt som miljöskyddet bibehålls och vid behov föreslå ändringar. I arbetet med redovisningen av uppdraget ska hänsyn tas till möjliga nya tekniker som är under utveckling inom vattenbruksområdet. Myndigheten ska i sitt arbete särskilt beakta lösningar som kan vara både produktionsdrivande och miljöfrämjande.


Jordbruksverket ska analysera om befintliga krav på tillstånd, registreringar eller anmälningar skulle kunna samordnas och i så fall ge förslag på en sådan samordning.

Legislation – one of the biggest challenges

- § Different definitions of aquaculture
- § The environmental licenses are regulated based on the amount of nutrients in the feed and not on the discharge of nutrients to the surrounding environment.
- § Aquaculture as environmentally hazardous activities according to the Environmental Code
- § Short and time-limited environmental permits
- § No national guidance on trials and supervision of aquaculture that can be linked to all relevant regulations



Several challenges and obstacles have been highlighted, only a few of them are presented



Thank you for your attention!