

Can Baltic aquaculture be sustainable?

- Yes, perhaps but how do we get there?
- Sector will not benefit from not facing facts and realities here and now
- Stop using "sandbox arguments"
- Inflated promises quickly loses air

- Are we trapped in an Emperors' New Clothes situation?



Feed and fishing

- New ingredients not available yet – operational 5-10 years time, year 2019-2024, expensive?
- Mussels and algae not viable in Baltic Sea
- We are left with current feed ca 40% fish content (IFFO/FAO numbers)
- Veg. content must also be sustainable!



Feed and fishing

- 1/3 of world total catch is fishmeal/oil (IFFO/FAO)
- High seas IUU fishery NOT under control
- CFP demands MSY: (COM “Fishing Opportunities 2014”)
 - Currently 39% stock are overfished in EU alone
 - Even legally caught fish is not sustainable!
 - 50% of stocks, status unknown, no assessments
 - Fishing must be reduced in EU
 - Baltic pelagic stocks fully utilized ca 600 000t, but here it should be fully traceable..

**Room for increased
production?**



Main option: Open cage farming

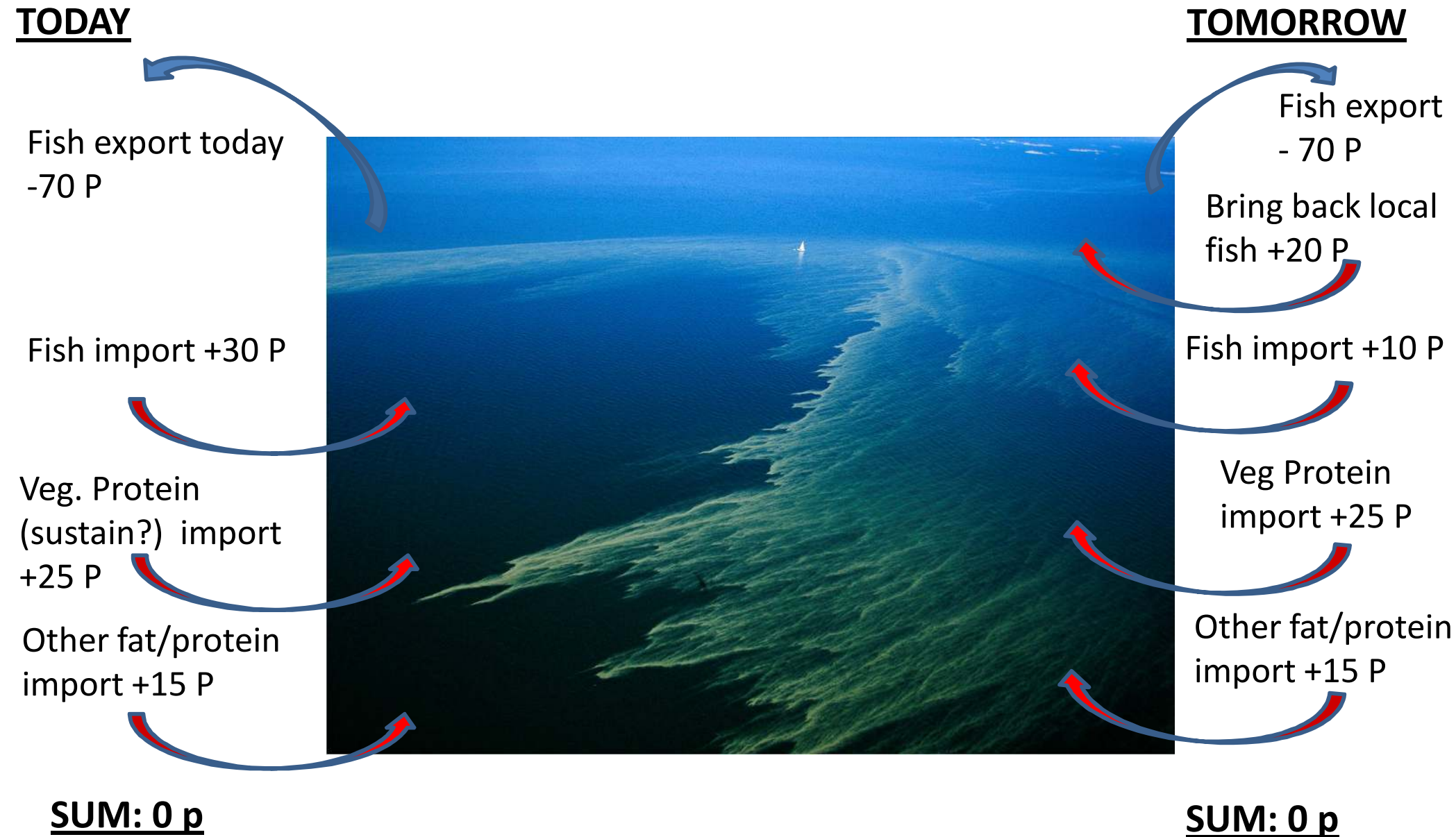
- New operations still focus a lot on open cage systems in marine area (upstream?)
- Current operations, even with improvements are more of the same
- Compensation: mussels; algae is not sufficient or operational
- Aquabest report 9 clearly states: business as usual is not sustainable

Nutrients..

- Feed more or less same past 5 years; open cages favored:
 - Nutrient losses and loads will increase with increased production
 - Local impacts still a problem, highly depending on placement
 - Even risk of increasing anoxic areas hardly acceptable in the Baltic Sea
 - Compensatory measures seem distant, not sufficient or expensive

Nutrient loops a reality?

Does anything change in the Baltic as a whole if we only use local pelagic fish?



Risks – disease, parasites, escapes

- Several parasites and diseases pose serious risk: VHS (and other rhabdoviruses), BKD, Flavobacteriosis, etc etc
- New parasites will come in: recent "Agens X" in Ljungan river, Sweden 2011-2013
- Poor, if any control of imports of material (vertical transfer -born with the pathogen in bodies)
- Treatment of wild fish is impossible or close to it
- Escapees is a problem, nature finds ways..
 - Proof of rainbow spawning on Gotland island; 11 self sustained pop. in Norway; Austria proof of shifted spawning time fr. spring to autumn

Jobs and growth?

- Demand driven process – niche fin fish, not feeding the hungry.
- A growing demand from where and at what price?
- We can hardly compete with Asia, SA.
 - growth will continue there..
- Growth as in new actors is not in interest of existing operators
- Realistic growth rate perhaps 1-2% a year in the region?

Jobs and growth?

- Often used argument: more and new jobs

Examples:

- Åland Islands around 80 people employed (food prod. 4527 t, 2009 -1/3 of Finland's production)
- Sweden 370 employed (food fish prod. 12447 t, 2012)
- Double production more jobs?

Does not seem to be true..

Sweden 2006*: 6754t production gave 439 jobs

Sweden 2012*: 12447t production gave 370 jobs

* Statistics Sweden: www.scb.se

CCB joint statement

- CCB considers open cage systems placed in marine areas an unsustainable option in the Baltic Sea today
- Selection of species based on principles of risk management in relation to genetic risks, needs for medicine, diseases and parasites
- Increases in aquaculture production of carnivorous fish increase the pressure of wild fish stocks and this link must be cut
- All aquaculture installations, also small-sized, must always have a thorough environmental impact assessments process
- Operational permits given for aquaculture production must contain e.g. elements of self-control, type of feed, nutrient book keeping and species selections
- Permit for aquaculture operations shall include requirements to withdraw the permit if evidence of multiple escapees due to negligence or poor handling
- Trade and imports of egg, fry etc must be strictly controlled in BSR

What to do then..

- Almost all mentioned problems controllable in "closed" systems (RAS, potentially upstream, btw a no-no in Norway)
- RAS examples are several now (Poland, Denmark, Sweden, Finland)
- Feed remains to be solved..
- We must have permits demanding certain feed, nutrient budgets and species to reach critical mass..
- Storytelling a key ingredient in farmed anything – don't miss the opportunity

Thank you for listening



Is this fish sustainable?

Oh yes, it is a farmed fish from the Stephen Fry Farm down the road!