Capture based aquaculture on Arctic cod - state of the art

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• Why capture based aquaculture (CBA)?
• CBA on Cod - the state of the art
• Challenges
Arguments for CBA

- Limited - and often decreasing - wild resources
- Adds volume and value to TAC
- Consumer preferences - fresh seafood
- Longer shelf life
- Input uncertainty
  - Volumes and timing
  - Quality
- Farming - too costly
Biology

Norwegian Arctic cod quota

15.10.2015
Norwegian landings of cod
2000 - 2010

Value system
Number of vessels

Fishing Gears
Processing plants - 2014

CBA on Atlantic cod
Quota premium - it works!

- Incentives for activity - likely temporary
- 2008 - ca 25 % bonus
- 2013 - expanded ca 75 % - very strong incentive

- Relatively small volume landed live
  - Could be expanded
  - Significant compared to fresh sales in June - Oct.

![Graph showing Mengde and Pris SLUH data from 2000 to 2015.](image)

![Bar chart showing live and traditional landings in thousands of tons from 2000 to 2015.](image)
Further developments

- 10% drop in cod quota
- Quota premium until 2018
- Harvesting strategy - more concentrated in space and time
- More important to add value to TAC
- Input uncertainty
  - Volumes and timing
  - Quality
- Market:
  - Consumer preferences - fresh seafood
  - Longer shelf life
  - Continuity
- Farming - still too costly?

Challenges

- Technology and biology:
  - How to reduce risk and costs in harvesting, storing and processing?
- Public governance:
  - Will the quota premium survive?
- Knowledge:
  - How to develop and share?
  - How to integrate fisheries and aquaculture?
  - How to avoid opportunism?
- Market:
  - Product mix and labeling
  - Logistics and shelf life
  - Reduce volume and quality uncertainty
- Structure:
  - How to organize the value system?
  - How to share risk and profit in a fragmented value system?
Thanks for your attention