IESSNS – International ecosystem survey in the Northeast Atlantic

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IESSNs


Main objective:

• **Mackerel**
• Herring
• Blue whiting (pollock)

Secondary objective

• Salmon
• Plankton
• Oceanography
• Marine mammals
• Other fish
**Primary gear:** Multipelt 832 (Multipurpose pelagic ecosystem pelagic trawl)

- **Horizontal opening:** 65-70 m
- **Vertical opening:** 30-35 m
- **Speed:** 4.5-5 knots
- **Depth:** 0-400 m
- **Time:** 30 minutes
Other gear:

- Echo Sounders
- CTD
- Plankton nets
- Observations
For each stratum:

- Equal distance to all surrounding stations and random starting point
- Acoustic transects with equal distance between transects (within stratum)
Research vessels and chartered fishing vessels are applied

- Arni Fridriksson, Iceland
- Vendla, Norway

Multi-year contracts with commercial vessels
- Experienced crew
- Stability
Storing data (common Database)

- Scrutinized acoustic data, 1 nmi
- Oceanographic data, 1 m
- All fish sampled data

- Raw data stored at national databases

- Time should be dedicated to check data and analyses (multiple people)
Paper describing geographic distribution and stock expansion

Quantifying changes in abundance, biomass, and spatial distribution of Northeast Atlantic mackerel (Scomber scombrus) in the Nordic seas from 2007 to 2014

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Geographical expansion of Northeast Atlantic mackerel (Scomber scombrus) in the Nordic Seas from 2007 to 2016 was primarily driven by stock size and constrained by low temperatures

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+ other publications on: marine mammals, sonar studies, feeding interactions, etc
Critic against the survey – survey coverage
Critic against the survey – Catchability

Herding or horizontal avoidance?

Avoidance below the trawl

Effective trawling time
Survey index in assessment

Occasional year effect
- Changing spatial distribution?
- Changing catchability?

A challenge for the assessment
- Added correlation structure
Suggestions:

• Plan for all target species from the start
• Standardize all equipment
• Quality ensuring data
• WP2 – Cheap and quick sampling
  More beneficial to apply a plankton trawl?
• Gopro cameras in the trawl – cheap and efficient
• Use the opportunity for public outreach