4. Inclusion of the ecosystem approach in the ICES assessment

NWWAC Webinar

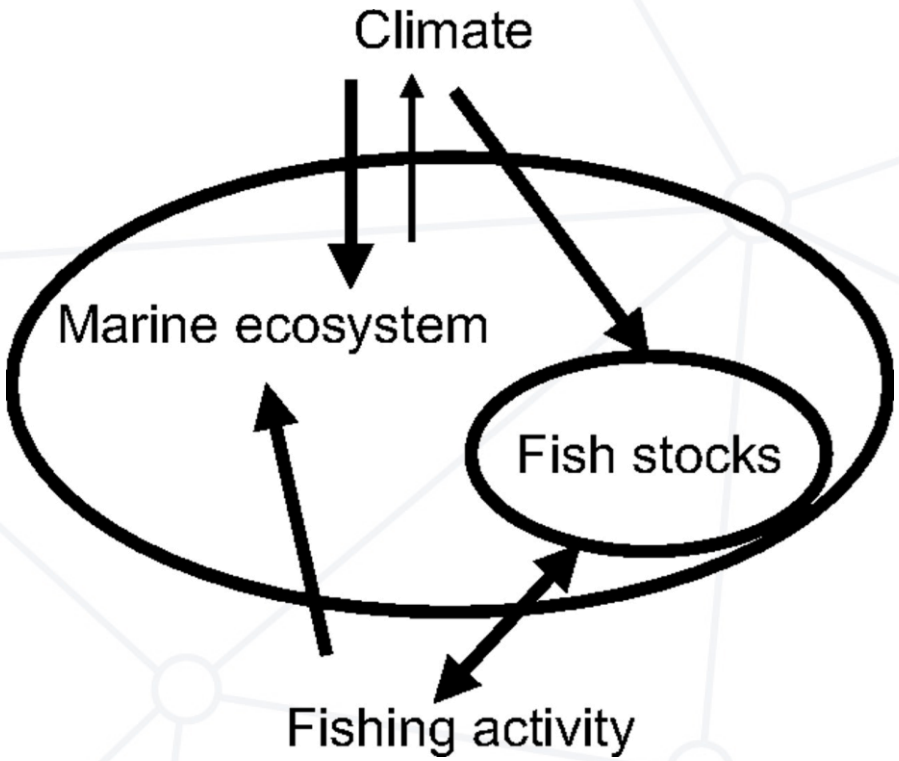
April 29, 2021

ICES
CIEM

Science for sustainable seas

Outline

- Background – ecosystem-based fisheries management (EBFM)
- ICES Advisory Committee discussions on WKIRISH – March 2021
- Further exploration of WKIRISH
- Current status and next steps



What is ecosystem approach to fisheries management?

a) Conservation/exploitation ecological objectives
b) Socio-economic objectives (including values)
c) Governance and institutional objectives

- **ICES currently only addresses a) in fishing opportunities advice**
- **WKIRISH helped explore a) and b)**
- **No one is exploring c) as yet**

WKIRISH has made significant progress on stakeholder engagement and building common Understanding of the issues.

Making advice for EBFM operational in ICES

1. **Influence of a dynamic ecosystem on fisheries** ← WKIRISH
2. Impact of fisheries on the ecosystem
3. Put fisheries into context of other maritime activities & pressures

EBM ‘aware’ framework & implementation plan being developed

WKIRISH background

- Fisheries advice is largely based on single-species assessments
- There has been an audit of how ICES accounts for short-term changes in ecosystem productivity (changes in recruitment, growth, nat. mortality)
- WKIRISH proposed an approach for incorporating overall ecosystem productivity and drivers in the fisheries advice framework.
- Initial review by the Advisory Committee (ACOM) was delayed due to COVID-19.
- A “Productivity subgroup of ACOM” was tasked to review the findings and provide for a potential way forward.
- The productivity subgroups reported In March 2021.

ICES Advisory Committee discussions – March 2021

- Pros
  - Valuable for tracking ecosystem fluctuations and departures from baseline.
  - Good way to communicate ecosystem changes to stakeholders.
  - Would help facilitate the incorporation of ecosystem considerations in benchmarks.
- Cons
  - Questioned how the approach differentiates between tracking noise and a clear ecosystem signal.
  - Further developments for the selection of indicators needed.
  - Currently assumes linear relationships which may not hold true and need improve understanding of the mechanisms involved.

Further exploration of the issues

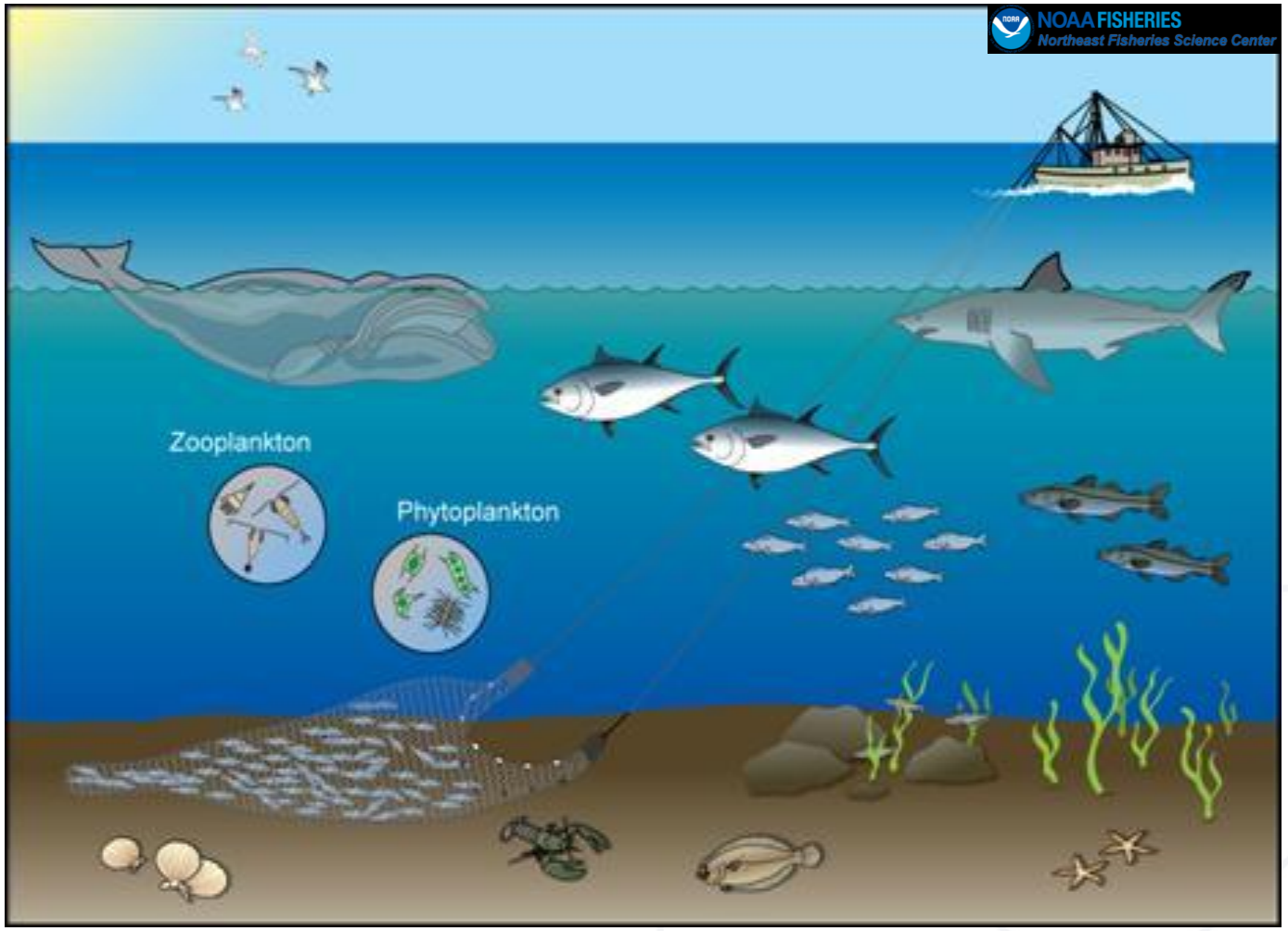
- Further recent developments (not examined by ACOM) examined benefits and trade-offs.
- Noise to signal is and can be evaluated.
- Need to accept that full understanding of mechanisms will be hard to attain.
- Other initiatives within ICES and elsewhere pointing to similar direction.
- Using F_{eco}, advice remains precautionary even if there is misspecification since advice would be constrained within the F_{MSY} ranges considered precautionary.

Current status

- Approach from WKIRISH has potential to deal with ecosystem changes on a finer timescale than major regime shifts.
- Most of the concerns of ACOM can/have been addressed.
- Mechanistic understanding is not complete but approach is precautionary and guards against departures in assumptions.
- ACOM is further exploring implementation.

Next steps

- ACOM to re-engage with experts on quality assurance requirements.
- Where considered appropriate, F_{eco} could be provided as a catch scenario, decision is still pending.
- ICES to inform the requesters of the advice of the WKIRISH approach to incorporate ecosystem dynamics into advice frameworks and suggest this could be a useful scenario to provide when available;
  ICES would appreciate NWWAC raising these issues with key requesters of advice.



Thank you for your attention!