



Ecosystem-based fisheries management in Iceland

Some practical considerations

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CONTENT OF PRESENTATION

- Perspectives from a fishing nation
 - modern fishing industry
 - economy highly dependent on well managed marine resources and marine environment
- The overall aims of EBFM- Confusion about the concept ?
- Some examples from Iceland
- Pragmatic steps to move forward



THE EBFM IN ESSENCE

- To manage human activities in such a way
 - that we determine the course and have in advance predicted the consequences for the resource in question, related resources and environment
- To weigh values of different resources one against another and to determine on such basis management actions

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THE EBFM CONCEPT

- Reykjavik conference (2001) and FAO guidelines (2002-2003)
 - Integrated management of multiple fisheries and other ocean uses - holistic approach
 - Broader set of conservation objectives, both ecosystem and species
 - Continue single-species approach, but stronger measures needed - if successful, we move towards EBFM

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THE EBFM CONCEPT

- Efforts to scientifically define holistic approaches, ICES and other fora
 - Good progress, but complicated to determine objectives, criterias and indicators
 - Still at design stage

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THE EBFM: A PRAGMATIC VIEW

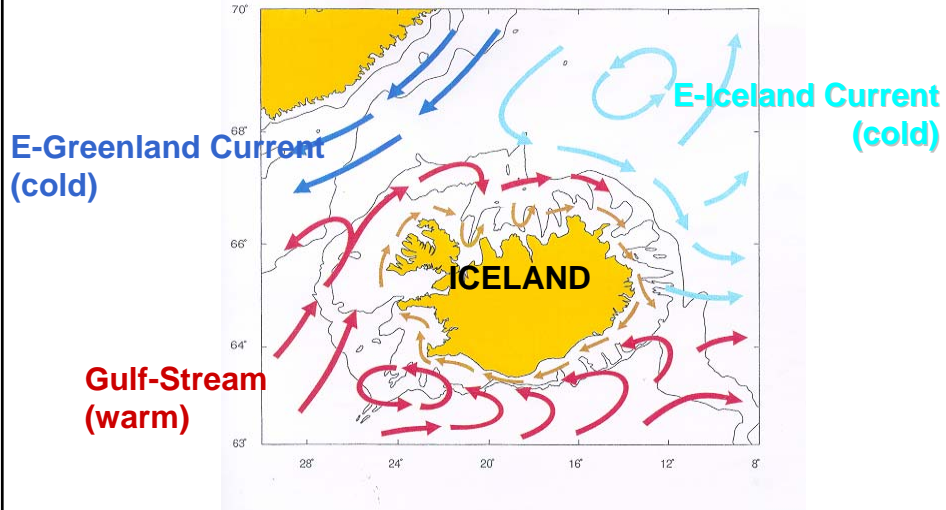
- Single species approach - try to further improve with present tools
- Main management measures
 - TAC's
 - Selective mesh size and gear
 - Season length and timing
 - Multispecies interactions
 - Closed areas
- All essential elements and in the spirit of EBFM

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OCEAN CURRENTS / TOPOGRAPHY
PROVIDE A RELATIVELY CLOSED SYSTEM

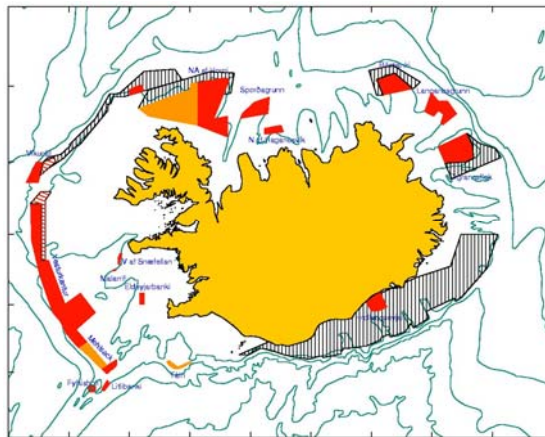


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CLOSED AREAS: BOTTOM TRAWL



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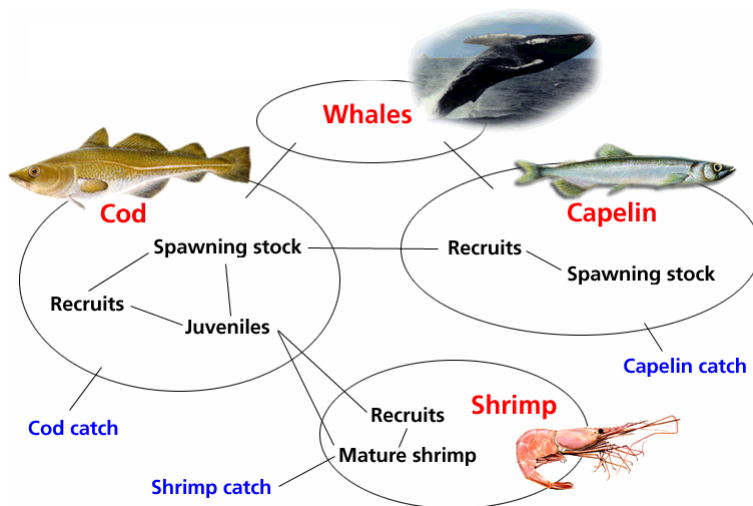
CLOSED AREAS: LONG-LINING



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MULTISPECIES STOCK SYSTEM AND MANAGEMENT





SINGLE SPECIES EBFM INVENTORY

1. Assessment/Basis for advice
2. Effects of fishery:
 - Discards of target and non-target spp by gear and area
 - Physical environment by area
 - Ecosystem components by species/stock complexes
3. Multispecies considerations
4. Effects of environmental changes on target stock
5. Special management considerations

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SINGLE SPECIES EBFM INVENTORY

2. Effects of fishery
 - A. Discards of target spp by gear and area
 - Estimation available
 - Apparent low or high impact
 - Monitored regularly
 - Apparent low or high impact
 - No data
 - Potentially relevant factor or
 - Not considered relevant factor
 - B. Discards of non-target spp by gear and area
 - C. Indirect mortality of target and non-target spp
 - (e.g. escapes through mesh, off hooks or under gear)

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SINGLE SPECIES EBFM INVENTORY

2. Effects of fishery on

D. Ecosystem components by species/stock complexes/communities

- Benthos
 - Zooplankton
 - Birds
 - Marine mammals
 - Fish
-
- Presence/absence of specific studies-information available?
 - Apparent low or high impact

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SINGLE SPECIES EBFM INVENTORY

2. Effects of fishery/fishing gear

E. Physical environment by area and gear

- Fish habitats
 - Spawning grounds (cod, capelin, sandeel)
 - Nursery grounds (cod, haddock, redfish)
- Benthic habitats
 - Cold water corals/benthic life structures (benthic animals, redfish)
 - Other three-dimensional habitats

Seabed maps available ?

Effects estimated ?

What measures are in place ?

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SINGLE SPECIES EBFM INVENTORY

3. Multispecies considerations

- Food web data available ?
- Models developed ?
- Predictions made ?

4. Effects of environmental changes on target stock

- If changes occur, does it require special attention with respect to spp in question ?

5. Special management considerations

- Operational
- Ecological

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CONCLUSION

- Ecosystem-Based Fisheries Management
 - Secures growth and sustainability of the fish stocks and their environment – at least in the long-term
 - Secures biodiversity
 - Requires knowledge/understanding, much more commitment and research than at present – profitable though in the long-run
- Important to continue developing EBFM methodology, objectives, criterias and indicators

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CONCLUSION

- Until such time
- Single-species EBFM Inventory (and single-species management) provides
 - Pragmatic approach to move forward
 - Integrates the concept into the institutional culture
 - Supports incremental development towards EBFM