Overview of presentation

Redfish
  • Irminger Sea area
  • Area I & II

Widely distributed stocks (WGWIDE)
  • Blue whiting
  • Norwegian spring-spawning Herring
  • Mackerel

Rockall Haddock

Special requests: Area management +++

Deep-water fisheries
Redfish (*Sebastes mentella*)
Redfish (Sebastes mentella) Stocks

Geographic range of Sebastes mentella. (ICES WKREDs, 2009)
1) Deep pelagic stock
   Pink triangle
   Red Polygon

2) Shallow pelagic stock
   Black circles

3) Icelandic slope stock;
   Blue diamonds

Fishing distribution (1996-2007) and genetic sample locations (ICES, WKREDS, 2009). Icelandic slope fishery not included
Introduction to the redfish complex in Subareas V, VI, XII, and XIV
Three biological stocks of *S. mentella* (*ICES advice* 2009):

- *Deep pelagic stock* (NAFO 1–2, ICES V, XII, XIV >500 m) – primarily pelagic habitats, and includes demersal habitats west of the Faroe Islands;

- *Shallow pelagic stock* (NAFO 1–2, ICES V, XII, XIV <500 m) – extends to ICES I and II, but primarily pelagic habitats, and includes demersal habitats east of the Faroe Islands; and

- Icelandic slope stock (ICES Va, XIV) – primarily demersal habitats.

Individual stock summary sheets provided.
NEAFC requests ICES to continue to review the stock structure of *S. mentella* in the Irminger Sea and adjacent areas and consider, inter alia, NEAFC AM documents AM 2009/23 and AM 2009/29-rev 1 along with any other relevant evidence that may become available.

ICES Response, October 2010
ICES reaffirms its 2009 advice on the stock structure and management units for pelagic redfish in the Irminger Sea. …most of the information in the documents had already been taken into account in ICES 2009 advice…. 
Beaked Redfish (*Sebastes mentella*) in Subareas V, XII, XIV and NAFO Subareas 1+2 (Deep Pelagic stock > 500 m)
Beaked Redfish (*Sebastes mentella*) in Subareas V, XII, XIV and NAFO Subareas 1+2 (Deep Pelagic stock > 500 m)

Fishing areas and total catch
Beaked Redfish (*Sebastes mentella*) in Subareas V, XII, XIV and NAFO Subareas 1+2 (Deep Pelagic stock > 500 m)

Trawl survey estimates deeper than 500 m (blue circles) and area coverage of the survey (black open circles) in the Irminger Sea and adjacent waters.

Standardized commercial CPUE data from Faroe Islands and Iceland.
Advice summary for 2011:

New data have not changed the perception of the stock. **The advice for the fishery in 2011 is the same as the advice given in 2009 for the 2010 fishery:**

“ICES advises on the basis of precautionary considerations that the fishery be reduced below the 2008 level to 20,000 t and that a management plan be developed and implemented. ICES suggests that catches of Deep Pelagic *S. mentella* are set at 20 000 t as a starting point for the adaptive part of the management plan. Given the reduced abundance of this stock in recent years, a total catch limit of no greater than 20 000 tonnes should be implemented in 2010, irrespective of whether a management plan has been developed by that time or not.”
Beaked Redfish (*Sebastes mentella*) in Subareas V, XII, XIV and NAFO Subareas 1+2 (Shallow Pelagic stock < 500 m)

Beaked Redfish (*Sebastes mentella*) in Subarea XIVb (Shallow Pelagic stock < 500 m)
Beaked Redfish (*Sebastes mentella*) in Subareas V, XII, XIV and NAFO Subareas 1+2 (Shallow Pelagic stock < 500 m)

Fishing areas and total landings
Beaked Redfish (*Sebastes mentella*) in Subareas V, XII, XIV and NAFO Subareas 1+2 (Shallow Pelagic stock < 500 m)

Acoustic survey indices from above the scattering layer (red filled circle), trawl estimates within the scattering layer and shallower than 500 m (black triangle)

Standardized commercial CPUE
Advice summary for 2011:

New data have not changed the perception of the stock. The advice for the fishery in 2011 is the same as the advice given in 2009 for the 2010 fishery:

“ICES advises on the basis of precautionary considerations that no directed fishery should be conducted and by-catch of this stock in non-directed fisheries should be kept as low as possible. A recovery plan should be developed. Given the very low state of the stock, the directed fishery should be closed in 2010 irrespective of whether the recovery plan has been developed by that time or not.”
Beaked redfish (*Sebastes mentella*) in Subareas I and II
Beaked redfish (*Sebastes mentella*) in Subareas I and II
Beaked redfish (*Sebastes mentella*) in Subareas I and II

Norwegian bottom trawl surveys 1986-2009 in the Barents Sea (winter) and at Svalbard (summer/fall).
Advice summary for 2011:

New data have not changed the perception of the stock

The advice for this fishery in 2011 is the same as the advice given in 2009 for the 2010 fishery.

ICES advises that: “there should be no directed trawl fishery on Sebastes mentella in Subareas I and II in 2011. Area closures should be maintained and by-catch limits should be as low as possible until a significant increase in the spawning-stock biomass (and a subsequent increase in the number of juveniles) has been verified.”
Redfish (Sebastes mentella)

**SUMMARY: Redfish**

<table>
<thead>
<tr>
<th>Stock</th>
<th>ICES advice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irminger Sea and adjacent waters</td>
<td>Max 20,000 t. Management plan</td>
</tr>
<tr>
<td>&gt;500 m, deep pelagic</td>
<td>No directed fishery. Recovery plan</td>
</tr>
<tr>
<td>&lt;500 m, shallow pelagic</td>
<td>No directed fishery, lowest by-catch</td>
</tr>
<tr>
<td>Area I and II</td>
<td></td>
</tr>
</tbody>
</table>

**State of the stock and fishery: No reference points defined**
Widely Distributed Stocks
Norwegian spring-spawning herring

Catch distribution 2009
Norwegian spring-spawning herring

Catch distribution 2009

Quarter 1

Quarter 2

Q 3

Q 4
Norwegian spring-spawning herring

- **Landings**
  - Graph showing landings from 1988 to 2008.

- **Recruitment (age 0)**
  - Graph showing recruitment from 1988 to 2008.

- **Fishing Mortality**
  - Graph showing fishing mortality from 1988 to 2008.

- **Spawning Stock Biomass**
  - Graph showing spawning stock biomass from 1988 to 2008.
Norwegian spring-spawning herring
Norwegian spring-spawning herring

Acoustic estimate from the International Ecosystem Survey in the Nordic Seas (May)

- 2008: 10.0 mill. tons
- 2009: 10.4 mill. tons
- 2010: 5.8 mill. tons
ADVICE for 2011:

<table>
<thead>
<tr>
<th>Management Objective (s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MSY approach</strong> with caution at low stock size</td>
</tr>
<tr>
<td><strong>Cautiously avoid impaired recruitment (Precautionary Approach)</strong></td>
</tr>
<tr>
<td><strong>Cautiously avoid impaired recruitment and achieve other objective(s) of a management plan (e.g., catch stability)</strong></td>
</tr>
<tr>
<td>Landings in 2011</td>
</tr>
<tr>
<td>Less than 1.17 million tonnes</td>
</tr>
<tr>
<td>Less than 1.17 million tonnes</td>
</tr>
<tr>
<td>Less than 0.988 million tonnes</td>
</tr>
</tbody>
</table>

Agreed TAC (2010): 1.48 million tons
## Norwegian spring-spawning herring

<table>
<thead>
<tr>
<th>Type</th>
<th>Value</th>
<th>Technical basis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MSY</strong></td>
<td><strong>MSY</strong> 5.0 million t</td>
<td><strong>B</strong>&lt;sub&gt;pa&lt;/sub&gt;</td>
</tr>
<tr>
<td><strong>Approach</strong></td>
<td><strong>B</strong>&lt;sub&gt;trigger&lt;/sub&gt;</td>
<td></td>
</tr>
<tr>
<td><strong>F</strong>&lt;sub&gt;MSY&lt;/sub&gt;</td>
<td>0.15</td>
<td>FMSY using a Beverton &amp; Holt S/R relationship with data from 1950 to 2009</td>
</tr>
<tr>
<td><strong>Precautionary Approach</strong></td>
<td><strong>B</strong>&lt;sub&gt;lim&lt;/sub&gt; 2.5 million t</td>
<td>MBAL (accepted in 1998)</td>
</tr>
<tr>
<td></td>
<td><strong>Bpa</strong> 5.0 million t</td>
<td><strong>B</strong>&lt;sub&gt;lim&lt;/sub&gt; * exp(0.4*1.645)</td>
</tr>
<tr>
<td></td>
<td><strong>Flim</strong> not defined</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td><strong>Fpa</strong> 0.15</td>
<td>Based on medium-term simulations</td>
</tr>
</tbody>
</table>
Blue Whiting
Blue whiting

Catch distribution 2009

Catches 1988-2009
Blue whiting (Combined stock)

Landings

Recruitment (age 1)

Fishing Mortality

Spawning Stock Biomass
Blue whiting (Combined stock)

Acoustic Stock Estimates:

2007: 11.2 mill t

2008: 8.0 mill t

2009: 6.0 mill t

2010: 3.1 mill t
Blue whiting (Combined stock)

Bl. whiting
- BW 2009 final run
- BW 2010, no IBWSSS 2010
- BW 2010 all data

Recruits
- (billions)

SSB
- (1000t)
Blue whiting (Combined stock)

Bias correction

Estimate | CV
--- | ---
2004 | 1
2005 | 0.78 10%
2006 | 0.83 11%
2007 | 1.19 13%
2008 | 1.14 17%
2009 | 1.93 27%
2010 | 0.95 39%

Bl. whiting

- 2009 Key-run
- 2010 Key-run
- Bias corrected
- Russian Estimate

F

Recruits

SSB
Blue whiting (Combined stock)

<table>
<thead>
<tr>
<th>Management Objective (s)</th>
<th>Landings in 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transition to an <strong>MSY approach</strong> with caution at low stock size</td>
<td>50 700 to 223 000 for transition to the MSY framework by 2011 and 2015, respectively</td>
</tr>
<tr>
<td>Cautiously avoid impaired recruitment <em>(Precautionary Approach)</em></td>
<td>Zero landings</td>
</tr>
<tr>
<td>Cautiously avoid impaired recruitment and achieve other objective(s) of a management plan (e.g., catch stability)</td>
<td>40 100 tonnes</td>
</tr>
</tbody>
</table>

For the advice related to the transition to an MSY approach, the lower end of the range reflects concerns with the current status of the stock and indications of recruitment failure.
Mackerel
Mackerel in the Northeast Atlantic

Catches 2009:

Quarter 1
277,000 t

Quarter 2
79,000 t

Quarter 3
228,000 t

Quarter 4
151,000 t
Mackerel egg survey 2010
(30th January – 31st July)

Done every 3 year.

period 2 (8th March – 11th April).
Mackerel in the Northeast Atlantic

Mackerel egg survey 1992-2010 (tri-annual)

![Observed and fitted index time series](image-url)
**ADVICE for 2011:**

<table>
<thead>
<tr>
<th>Management Objective (s)</th>
<th>Total catch in 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transition to an MSY approach</strong> with caution at low stock size</td>
<td>Less than 672 000 tonnes</td>
</tr>
<tr>
<td>Cautiously avoid impaired recruitment <em>(Precautionary Approach)</em></td>
<td>Less than 672 000 tonnes</td>
</tr>
<tr>
<td>Cautiously avoid impaired recruitment and achieve other objective(s) of a <strong>management plan</strong> (e.g., catch stability)</td>
<td>Between 592 000 and 646 000 tonnes</td>
</tr>
</tbody>
</table>
Mackerel in the Northeast Atlantic
### Mackerel in the Northeast Atlantic

#### Estimation of 2010 catch

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU quota, including Southern and Swedish quota</td>
<td>367.014</td>
</tr>
<tr>
<td>Inter-annual quota transfer from 2009 (EU)</td>
<td>7.352</td>
</tr>
<tr>
<td>UK-Ireland payback</td>
<td>-18.222</td>
</tr>
<tr>
<td>Norwegian quota including Northern quota</td>
<td>181.000</td>
</tr>
<tr>
<td>Inter-annual quota transfer from 2009 ()</td>
<td>69.000</td>
</tr>
<tr>
<td>Russian quota</td>
<td>45.321</td>
</tr>
<tr>
<td>Discards (Previous years estimate)</td>
<td>12.854</td>
</tr>
<tr>
<td>Expected overcatch in 2010 based on 2009 overcatch (7.6%)</td>
<td>50.683</td>
</tr>
<tr>
<td>Icelandic quota</td>
<td>130.000</td>
</tr>
<tr>
<td>Faroese quota</td>
<td>85.000</td>
</tr>
<tr>
<td><strong>Total expected catches in 2010 (including discards)</strong></td>
<td><strong>930.002</strong></td>
</tr>
</tbody>
</table>

**Management Plan** *(agreed October 2008 by EU, Norway and Faroes)*: TAC 2011: Between 592 000 and 646 000 tonnes
“Some data suggests that the distribution of the spawning and feeding areas may have expanded in recent years. Further analyses will be required to describe the extent of this possible expansion. Mackerel has recently been commercially fished in areas where it was previously not fished, particularly in the Icelandic EEZ”

Acoustic estimate, July 2010
## Widely distributed and migratory stocks

<table>
<thead>
<tr>
<th>Stock</th>
<th>Bpa/Blim</th>
<th>Fpa/Flim</th>
<th>FMSY</th>
<th>Advice (total catch) for 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norwegian spring-spawning herring</td>
<td>☺ ☺☺</td>
<td>☺ ☺</td>
<td>☻</td>
<td>988 000 – 1 170 000 t</td>
</tr>
<tr>
<td>NEA mackerel</td>
<td>☺ ☺</td>
<td>☻ ☻</td>
<td>☰</td>
<td>592 000 – 672 000 t</td>
</tr>
</tbody>
</table>
| Blue whiting                        | ☰ ☰ ☰    | ☰ ☰    | ☰ ☰  | 40 100 – (223 000) t
Haddock in Division VIb (Rockall)
Haddock in Division VIb (Rockall)

Scottish, Irish and Russian effort in 1985–2009
**ADVICE summary for 2011:**

<table>
<thead>
<tr>
<th>Management Objective (s)</th>
<th>Landings in 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transition to an <strong>MSY approach</strong> with caution at low stock size</td>
<td>Less than 2700 t</td>
</tr>
<tr>
<td>Cautiously avoid impaired recruitment <strong>(Precautionary Approach)</strong></td>
<td>Less than 2400 t</td>
</tr>
<tr>
<td>Cautiously avoid impaired recruitment and achieve other objective(s) of a <strong>management plan</strong> (e.g., catch stability)</td>
<td>n/a</td>
</tr>
</tbody>
</table>

**TAC change:** -46% to -53%,
Landings(2009) = 3 800 t
Special Requests
Requests from NEAFC on vulnerable deep-water habitats

1. Vulnerable deep-water habitats in the NEAFC Regulatory Area

*NEAFC requests ICES to continue to provide all available new information on distribution of vulnerable habitats in the NEAFC Convention Area and fisheries activities in and in the vicinity of such habitats.*

2. Regarding vulnerable habitats and deep-water species

*Extending closures on the Mid-Atlantic Ridge Based on a proposal by the European Community to expand the current closed areas in the Mid-Atlantic ridge, ICES is requested to evaluate the proposal and provide advice whether the proposed extension will protect VMEs in the areas concerned against significant adverse impacts resulting from bottom fishing activities.*
Advice to NEAFC on vulnerable deep-water habitats

1) new information on distribution of vulnerable habitats in the NEAFC Convention Area

ICES ADVICE August 2010:

a) data confirm the presence vulnerable deep-water habitats within current NEAFC closures,
b) Data also show that indicator species occur in areas close to the current closure boundary (which suggests that some revision of closure boundaries should be considered.

Observed coral occurrence on Rockall Bank from dedicated video surveys conducted by Marine Scotland, Joint Nature Conservation Committee, University of Plymouth and (UK) Department of Energy and Climate Change and from fisheries data supplied by the Scottish Fishermen’s Federation.
Advice Summary

2) Extending closures on the Mid-Atlantic Ridge will protect any Vulnerable Marine Ecosystem (VME) in the areas concerned against significant adverse impacts resulting from bottom fishing activities on the Reykjaness Ridge. In the Sub-Polar Frontal Zone and in the north of the Azores, proposed closures will probably have no immediate effect in terms of reducing the risk of adverse impact from bottom fisheries as no current exploitation occurs in these areas.
Background: In Autumn 2009, NEAFC asked ICES to produce guidelines for observers onboard fishing vessels that might be authorised to fish in the so-called new bottom fishing areas.

Response, ICES Technical Service October 2010:

Guidance on data sampling and data format
Scientific observers should undertake the following tasks;
1. record details of the vessel operation;
2. take samples of catches to determine biological characteristics;
3. record biological data by species caught;
4. record by-catches, their quantity and other biological data;
5. record the procedure by which declared catch weight is measured;
6. record entanglement and incidental mortality of birds and mammals;
7. prepare reports of their observations using standard data exchange formats;
8. submit copies of reports to NEAFC and captains of vessels.
Deep-water fisheries

Biennial advice last given in 2010

- Ling
- Blue ling
- Tusk
- Roundnose grenadier
- Greater silver smelt
- Orange roughy
- Black scabbardfish
- Greater forkbeard
- Alfonsinos
- Red seabream
### MSY, Stocks without projections

**stock trends based assessments**

<table>
<thead>
<tr>
<th>Stock Trend</th>
<th>No overfishing</th>
<th>Overfishing or unknown exploitation status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Decreasing</strong></td>
<td>Reduce catch from recent level</td>
<td>Reduce catch from recent level at rate of stock decrease</td>
</tr>
<tr>
<td>stock trend</td>
<td>at rate of stock decrease</td>
<td></td>
</tr>
<tr>
<td><strong>Stable</strong></td>
<td>Maintain catch at recent level</td>
<td>Reduce catch from recent level</td>
</tr>
<tr>
<td>stock trend</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Increasing</strong></td>
<td>Increase catch from recent level at rate of stock increase</td>
<td>Maintain catch at recent level</td>
</tr>
<tr>
<td>stock trend</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ICES advice Summary for 2011-12

“This year’s assessments of deep-water stocks do not indicate any substantial differences from previous assessments (which is not surprising for so many long-lived species), and therefore, the advice is similar. However, this advice should be taken as an upper bound on ICES advice.”
Deep Water Stocks (biennial advice)

Ling
Tusk
  Blue Ling
Greater silver smelt
Alfonsinos/Golden eye perch
Orange roughy
Greater forkbeard
Roundnose grenadier
Black scabbardfish
Red (=blackspot) seabream
Ling (*Molva molva*)
Ling in Subareas I and II

Advice Summary for 2011:

Constrain catches to 8000 t until such time there is sufficient scientific information to prove the fishery is sustainable.
Deep-water Stocks: Ling (*Molva molva*)

Ling in Subareas I and II

[Bar chart showing landed Ling in thousands of tonnes for years 1988 to 2009 for subareas I, IIa, and IIb.]

[Graph showing CPUE (kg/hook x 1000) for Div. IIa from 1999 to 2009.]
Ling in Division Va

Advice Summary for 2011:

ICES advises that catches in 2011 should not exceed 7500 t until such time there is sufficient scientific information to prove the fishery is sustainable.
Deep-water Stocks: Ling (*Molva molva*)

Ling in Division Va

- Recruitment index
- Exploitable biomass index
- Landings
- Fproxy
Ling in Division Vb

Advice Summary for 2011:

ICES advises no increase in effort and a reduction in catches should be considered in order to be consistent with the MSY.
Deep-water Stocks: Ling (*Molva molva*)

**Ling in Division Vb**

- **Bar Graph:**
  - **X-axis:** Years (1988-2006)
  - **Y-axis:** Catch (Tons)
  - **Legend:**
    - Other
    - Faroese

- **Line Graph:**
  - **X-axis:** Years (1994-2002)
  - **Y-axis:** CPUE (t/200 hooks)
  - **Legend:**
    - Spring
    - Summer

- **Line Graph:**
  - **X-axis:** Years (1973-2000)
  - **Y-axis:** CPUE (kg/hook) x 1000

**Div. Vb**
Ling in Divisions IIIa and IVa, and in Subareas VI, VII, VIII, IX, XII, and XIV (other areas)

Advice Summary for 2011:

Constrain catches to recent average (2003-2008) and a reduction in catches should be considered in order to be consistent with the MSY
Deep-water Stocks: Ling (*Molva molva*)

Ling in Divisions IIIa and IVa, and in Subareas VI, VII, VIII, IX, XII, and XIV (other areas)
Deep Water Stocks (biennial advice)
Ling
Tusk
   Blue Ling
Greater silver smelt
Alfonsinos/Golden eye perch
Orange roughy
Greater forkbeard
Roundnose grenadier
Black scabbardfish
Red (=blackspot) seabream
Deep-water Stocks

Tusk (*Brosme brosme*)
Tusk in Subareas I and II (Arctic)

Advice Summary for 2011:

ICES advises that catches should be less than 9900 t and a reduction below recent levels should be considered in order to be consistent with MSY
Deep-water Stocks: Tusk (*Brosme brosme*)

**Tusk in Subareas I and II (Arctic)**

- **Graph 1:** Landings (thousands tonnes) from 1988 to 2009 for subareas I, IIa, and IIb.
- **Graph 2:** CPUE (kg/hook x 1000) for Div. IIa from 1999 to 2009.
Tusk in Division Va and Subarea XIV

Advice Summary for 2011:

ICES advises that catches should be less than 6000 t.
Deep-water Stocks: Tusk (*Brosme brosme*)

**Tusk in Division Va and Subarea XIV**

- **Landings**
- **Recruitment**
- **Fishing mortality, F(7–13)**
- **Spawning Stock Biomass**
Tusk in Division Vlb (Rockall)

Advice Summary for 2011:

ICES advises to reduce catches by at least the rate of decline of the cpue.
Deep-water Stocks: Tusk (*Brosme brosme*)

**Tusk in Division VIb (Rockall)**

- **Landings Chart**
  - Y-axis: Landings (in tonnes)

- **CPUE Chart**
  - X-axis: Years (1998-2010)
  - Y-axis: CPUE
Advice Summary for 2011:

Fisheries should not be allowed to expand and measures should be considered to limit occasional high levels of bycatch, in order to be consistent with MSY.
Tusk in Subarea XII excluding XIIb (Mid-Atlantic Ridge)
Tusk in Divisions IIIa, Vb, VIa XIIb and Subareas IV, VII, VIII, IX (other areas)

Advice Summary for 2011:

ICES advises that catches in 2011 should be less than 6 900 t, and a reduction from recent levels catches should be considered in order to be consistent with MSY.
Tusk in Divisions IIIa, Vb, VIa XIIb and Subareas IV, VII, VIII, IX (other areas)
Deep Water Stocks (biennial advice)
Ling
Tusk
   Blue Ling
Greater silver smelt
Alfonsinos/Golden eye perch
Orange roughy
Greater forkbeard
Roundnose grenadier
Black scabbardfish
Red (=blackspot) seabream
Blue ling (*Molva dypterygia*)
Blue ling in Divisions IIIa, and IVa and Subareas I, II, VIII, IX, and XII

Advice Summary for 2011:

- No directed fisheries for blue ling, and a reduction in catches should be considered until such time there is sufficient scientific information to prove the fishery is sustainable;

- Measures should be implemented to minimize the bycatch;

- Closed areas to protect spawning aggregations should be maintained and expanded where appropriate.
Blue ling in Divisions IIIa, and IVa and Subareas I, II, VIII, IX, and XII

Deep-water Stocks: Blue ling (*Molva dypterygia*)
Blue ling in Division Va and Subarea XIV (Iceland and Reykjanes ridge)

Advice Summary for 2011:

No direct fishery and minimum bycatch. Area closures to protect spawning aggregations should be maintained and expanded as appropriate.
Blue ling in Division Va and Subarea XIV (Iceland and Reykjaness ridge)

Deep-water Stocks: Blue ling (*Molva dypterygia*)

- **A)**
  - Graph showing biomass index for Va and XIV.
  - Y-axis: Biomass index.

- **B)**
  - Graph showing CPUE and effort.
  - Y-axis: CPUE and effort.

- **C)**
  - Graph showing biomass index over time.
  - Y-axis: Biomass index.

- **D)**
  - Graph showing F proxy.
Blue ling in Subdivision Vb, and Subareas VI, and VII

Advice Summary for 2011:

No direct fishery and effort should be made to limit bycatch in the mixed fishery. A reduction in catches should be considered in order to be consistent with the, namely:

- Current closed areas to protect spawning aggregations should be maintained, and new closed areas should be identified and implemented where appropriate;

- Closed areas should be identified and implemented to protect identified spawning aggregations in international waters in Divisions Vb and Vlb.
Deep-water Stocks: Blue ling (*Molva dypterygia*)

Blue ling in Subdivision Vb, and Subareas VI, and VII

**Left Diagram:**
- **Y-axis:** Landings (Thousands, tonnes)
- **X-axis:** Years (1966-2008)
- **Legend:**
  - VII
  - VI
  - Vb

**Right Diagram:**
- **Y-axis:** Lpue
- **X-axis:** Years (1990-2005)
- **Legend:** Q1, Q2, Q3, Q4, Year

**Bottom Diagram:**
- **Y-axis:** Mean length in French landings (VIa)
- **X-axis:** Years (1985-2010)
Deep Water Stocks (biennial advice)

Ling
Tusk
  Blue Ling
Greater silver smelt
Alfonsinos/Golden eye perch
Orange roughy
Greater forkbeard
Roundnose grenadier
Black scabbardfish
Red (=blackspot) seabream
Greater silver smelt (*Argentina silus*)
Greater silver smelt (*Argentina silus*) in other areas

Advice Summary for 2011:

The fishery should not be allowed to expand, and a reduction in catches should be considered, in light of survey data indicating a recent decline.
Greater silver smelt \((\text{Argentina silus})\) in other areas

**Landings**

- **Biomass index**

<table>
<thead>
<tr>
<th>Year</th>
<th>Landings (1000 tonnes)</th>
<th>Biomass index (kg haul⁻¹)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>30</td>
<td>100</td>
</tr>
<tr>
<td>2007</td>
<td>25</td>
<td>150</td>
</tr>
<tr>
<td>2006</td>
<td>20</td>
<td>200</td>
</tr>
<tr>
<td>2005</td>
<td>15</td>
<td>150</td>
</tr>
<tr>
<td>2004</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>2003</td>
<td>5</td>
<td>50</td>
</tr>
<tr>
<td>2002</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>2001</td>
<td>5</td>
<td>50</td>
</tr>
<tr>
<td>2000</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>1999</td>
<td>15</td>
<td>150</td>
</tr>
<tr>
<td>1998</td>
<td>20</td>
<td>200</td>
</tr>
<tr>
<td>1997</td>
<td>25</td>
<td>250</td>
</tr>
<tr>
<td>1996</td>
<td>30</td>
<td>300</td>
</tr>
<tr>
<td>1995</td>
<td>35</td>
<td>350</td>
</tr>
<tr>
<td>1994</td>
<td>40</td>
<td>400</td>
</tr>
<tr>
<td>1993</td>
<td>45</td>
<td>500</td>
</tr>
<tr>
<td>1992</td>
<td>50</td>
<td>600</td>
</tr>
<tr>
<td>1991</td>
<td>55</td>
<td>700</td>
</tr>
<tr>
<td>1990</td>
<td>60</td>
<td>800</td>
</tr>
<tr>
<td>1989</td>
<td>65</td>
<td>900</td>
</tr>
<tr>
<td>1988</td>
<td>70</td>
<td>1000</td>
</tr>
</tbody>
</table>
Greater silver smelt (*Argentina silus*) in Division Va

Advice Summary for 2011:

Reduce exploitation rates of the fishery to levels that occurred between 2001 and 2007.
Greater silver smelt (*Argentina silus*) in Division Va

Deep Water Stocks (biennial advice)

Ling
Tusk
Blue Ling
Greater silver smelt
Alfonsinos/Golden eye perch
Orange roughy
Greater forkbeard
Roundnose grenadier
Black scabbardfish
Red (=blackspot) seabream
Alfonsinos/Golden eye perch (*Beryx* spp.)
Alfonsinos in the Northeast Atlantic

Advice Summary for 2011:

Fisheries should not be allowed to expand, and in the light of the vulnerability of deep sea species a reduction in catches should be considered until such time there is sufficient scientific information to prove the fishery is sustainable.
Deep-water Stocks: Alfonsinos (*Beryx* spp.)

**Alfonsinos in the Northeast Atlantic**

[Bar charts showing landings of alfonsinos from 1988 to 2009 for different groups (VI, VII, VIII+IX, Xa, Xb).]

[Line graph showing landings of *B. splendens* and *B. decadactylus* from 1988 to 2009.]

Deep Water Stocks (biennial advice)

Ling
Tusk
Blue Ling
Greater silver smelt
Alfonsinos/Golden eye perch
Orange roughy
Greater forkbeard
Roundnose grenadier
Black scabbardfish
Red (=blackspot) seabream
Orange roughy (*Hoplostethus atlanticus*)
Orange roughy in the Northeast Atlantic

Advice Summary for 2011:

No directed fisheries for this species and measures to minimize bycatch should be taken.
Orange roughy in the Northeast Atlantic

Deep-water Stocks: Orange roughy
*(Hoplostethus atlanticus)*
Deep Water Stocks (biennial advice)

Ling
Tusk
  Blue Ling
Greater silver smelt
Alfonsinos/Golden eye perch
Orange roughy
Greater forkbeard
Roundnose grenadier
Black scabbardfish
Red (=blackspot) seabream
Greater forkbeard (*Phycis blennoides*)
Greater forkbeard in the Northeast Atlantic

Advice Summary for 2011:

Fishery should not be allowed to expand, and a reduction in catches should be considered, in light of survey data indicating a recent decline.
Deep-water Stocks: Greater forkbeard (*Phycis blennoides*)

Greater forkbeard in the Northeast Atlantic
Deep Water Stocks (biennial advice)

Ling
Tusk
  Blue Ling
Greater silver smelt
Alfonsinos/Golden eye perch
Orange roughy
Greater forkbeard
Roundnose grenadier
Black scabbardfish
Red (=blackspot) seabream
Roundnose grenadier (*Coryphaenoides rupestris*)
Roundnose grenadier in Division IIIa

Advice Summary for 2011:

ICES advises to constrain catches to 1000 t. However, reestablishment of a fishery should be accompanied with a monitoring programme to assure exploitation consistent with MSY.
Deep-water Stocks: Roundnose grenadier
(*Coryphaenoides rupestris*)

**Roundnose grenadier in Division IIIa**

*Roundnose Grenadier: Landings in IIIa*

![Graph showing landings of Roundnose grenadier in Division IIIa from 1998 to 2009. The y-axis represents tons, and the x-axis represents years from 1998 to 2009. The graph shows a significant increase in landings in 2005 and 2006.*
Roundnose grenadier in Subareas VI and VII, and Divisions Vb and XIIb

Advice Summary for 2011:

Catches should be less than 6000 t and a further reduction in catches from recent levels should be considered in order to be consistent with MSY.
Deep-water Stocks: Roundnose grenadier
(Coryphaenoides rupestris)

Roundnose grenadier in Subareas VI and VII, and Divisions Vb and XIIb
Roundnose grenadier in Mid-Atlantic Ridge (Xb, XIIc, Va₁, Xlla₁, XIVb₁)

Advice Summary for 2011:

The fishery should not be allowed to expand and a reduction in catches should be considered in order to be consistent with the MSY
Roundnose grenadier in Mid-Atlantic Ridge (Xb, XIIc, Va₁, XIIa₁, XIVb₁)
Roundnose grenadier in all other areas (I, II, IV, Va2 VIII, IX, XIVa, and XIVb2)

Advice Summary for 2011

The fishery should not be allowed to expand, and in the light of the vulnerability of deep sea species a reduction in catches should be considered until such time there is sufficient scientific information to prove the fishery is sustainable.
Roundnose grenadier in all other areas (I, II, IV, Va2 VIII, IX, XIVa, and XIVb2)
Deep Water Stocks (biennial advice)

Ling
Tusk
  Blue Ling
Greater silver smelt
Alfonsinos/Golden eye perch
Orange roughy
Greater forkbeard
Roundnose grenadier
Black scabbardfish
Red (=blackspot) seabream
Deep-water Stocks

Black scabbardfish (*Aphanopus carbo*)
Deep-water Stocks: Black scabbardfish 
(*Aphanopus carbo*)

Black scabbardfish in other areas (Subareas I, II, IV, X, XIV and Divisions IIIa, Va)

Advice Summary for 2011:

Fishery should not be allowed to expand, and a reduction in catches should be considered until such time there is sufficient scientific information to prove the fishery is sustainable.
Deep-water Stocks: Black scabbardfish
(*Aphanopus carbo*)

**Black scabbardfish in other areas (Subareas I, II, IV, X, XIV and Divisions IIIa, Va)**

![Graph showing landings of black scabbardfish by year and area from 1988 to 2009.](image)
Black scabbardfish in Subareas VIII and IX

Advice Summary for 2011:

ICES advises that catches in 2011 should be less than 2800 t.
Deep-water Stocks: Black scabbardfish
(Aphanopus carbo)

Black scabbardfish in Subareas VIII and IX
Black scabbardfish in Subareas VI, VII, and Divisions Vb, XIIb

Advice Summary for 2011:

ICES advises that catches in 2011 should be less than 2000 t
Deep-water Stocks: Black scabbardfish
(Aphanopus carbo)

Black scabbardfish in Subareas VI, VII, and Divisions Vb, XIIb

![Graph showing the annual Lpue (kg h⁻¹) of black scabbardfish from 1990 to 2005.](image1)

![Graph showing the trend of abundance index of black scabbardfish with proportion greater than 10%.](image2)
Deep Water Stocks (biennial advice)

- Ling
- Tusk
  - Blue Ling
- Greater silver smelt
- Alfonsinos/Golden eye perch
- Orange roughy
- Greater forkbeard
- Roundnose grenadier
- Black scabbardfish
- Red (=blackspot) seabream
Red (=blackspot) seabream (*Pagellus bogaraveo*)
Red (=blackspot) seabream (*Pagellus bogaraveo*) in Subareas VI, VII, and VIII

Advice Summary for 2011:

The fishery should not be allowed to expand and a reduction in catches should be considered in order to be consistent with the MSY
Deep-water Stocks: Red seabream
(Pagellus bogaraveo)

Red (=blackspot) seabream in Subareas VI, VII, and VIII

[Bar graph showing landings (tonnes) from 1988 to 2009 for Subareas VI and VII]
Red (=blackspot) seabream in Subarea IX

Advice Summary for 2011:

ICES advises that catches in 2011 should be less than 500 t which is a reduction from 2008-2009 landings.
Red (=blackspot) seabream in Subarea IX

Red seabream landings in IX

Landings in t

0 200 400 600 800 1000 1200

Red (=blackspot) seabream in Subarea X (Azores region)

Advice Summary for 2011:

Less than 1050 t and a reduction in catches should be considered in order to be consistent with the MSY
Deep-water Stocks: Red seabream 
(*Pagellus bogaraveo*)

Red (=blackspot) seabream in Subarea X (Azores region)
Deep Water Stocks (biennial advice)
Ling
Tusk
   Blue Ling
Greater silver smelt
Alfonsinos/Golden eye perch
Orange roughy
Greater forkbeard
Roundnose grenadier
Black scabbardfish
Red (=blackspot) seabream
Thank you for your attention! Comments and questions?