Today

- Introduction to the Dutch pelagic fishing industry
- The state of the stocks: image and reality
- Norwegian Sea ecosystem
- The N E Atlantic mackerel saga
- Some conclusions

seafood production in the Netherlands

- Shellfish: mussels and oysters in Zeeland and Waddenzee
- Fish farming
- Small scale fisheries (handline, gill nets, IJsselmeer, river basins)
- Shrimp fisheries in coastal areas and Waddenzee by small demersal shrimp trawlers
- Demersal fisheries in North Sea and Channel by demersal trawlers with various gear types. Fresh landings of sole, plaice, turbot, Norway lobster, whiting, cod, mullet, gurnard etc.
- Pelagic fisheries by pelagic freezer-trawlers (herring, mackerel, horse mackerel, blue whiting etc.)

Pelagics: large volumes

<table>
<thead>
<tr>
<th>demersal North Sea TACs 2013</th>
<th>Pelagic TACs 2013</th>
<th>(in ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plaice</td>
<td>North Sea herring</td>
<td>97.070</td>
</tr>
<tr>
<td>Sole</td>
<td>Atlanto Scandian herring</td>
<td>14.000</td>
</tr>
<tr>
<td>Cod</td>
<td>Horse mackerel</td>
<td>26.475</td>
</tr>
<tr>
<td>Turbot/brill</td>
<td>Mackerel</td>
<td>4.642</td>
</tr>
<tr>
<td>Whiting</td>
<td>Blue whiting</td>
<td>18.932</td>
</tr>
</tbody>
</table>

To present myself

- President Redersvereniging Zeewisserij and Pelagic Freezer-trawler Association
- Director Dutch Pelagic Producer Organization
- Chair of the EU pelagic fishing industry
- Head of the secretariat of the Pelagic Regional Advisory Council
- Vice president various EU fishermen's associations

Pelagic fisheries

- Redersvereniging voor de Zeewisserij originates from traditional herring fishery
- From fresh catches and landings to direct freezing at sea ('60s and '70s)
- Process of concentration and consolidation to 3 remaining companies

PFA: Dutch mother companies with foreign daughter companies. Total 9 companies in 5 member states

- 23 freezer-trawlers of which 12 under NL flag
It starts with fish!

Nets at sea

Pumping the fish on board

Handling from the bridge

Fish on board

Grading
Freezing

Frozen blocks to packaging

Storage on board and unloading

Lay out of pelagic freezer-trawler

Target species

- North Sea herring
- Atlantoherring
- Mackerel
- Horse mackerel
- Blue whiting
- Silversmelt
- Sardinella
- Sardines
- Pacific jack mackerel

AS Herring
Mackerel
Herring
Blue whiting
Silversmelt
Horse mackerel
Sardina
Sardines
Pacific jack mackerel

Map showing distribution of target species.
Core characteristics

1. Only fishing for direct human consumption (not for fishmeal)
2. Vertically integrated companies (catching, processing/storage, trade and export)
3. 90% export to non EU markets (mostly developing countries) → we supply about 6 mln fish meals per day to African consumers
4. State of the art technology (cost efficiency, safety on board, labor conditions, product quality, minimization environmental impact, selectivity)
5. Responsible and sustainable exploitation (MSC certification, intensive collaboration with science, fishing under quota regimes, etc.)

Market Lagos 2012

State of the stocks in Europe

Alarmist messages: overfishing, plundering of the oceans, continuous depletion of stocks, no more fish to eat in 2048, 80% EU stocks overfished etc.

How I see this?

1. Alarmist messages sell: most NGO’s and some scientists understand this media mechanism
2. Too much generalization
3. Base line changes all the time in EU → objectives have become more ambitious

Increased ambitions in management

- Up to 1998: management based on ‘Safe Biological Minimum’ (or $B_{lim}$ and $F_{lim}$)
- 1998-2010: management based on Precautionary Approach ($B_{pa}$ and $F_{pa}$)
- 2010-2015: management based on transition towards Maximum Sustainable Yield ($F_{msy}$ and $B_{msy}$ or $B_{trigger msy}$)
- 2015 onwards: MSY
- or beyond MSY?
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4. Old image of bad management sticks – sharp positive changes in last decade

Misinformation about the state of the fish stocks (PR war)

(according to the main Norwegian fisheries research institute IMR)

COMMON HEADLINES/ FALSE MESSAGES TO THE PUBLIC:

* "Most fish stocks are depleted or overfished"
* "Fisheries management has failed"
* "Marine protected areas is the only solution"
* "All commercial fish stocks will be gone in 2048"
* "Most large pelagic stocks depleted in the 1980s"
* etc

Different interpretations of the FAO/SOFIA-report:

- **GLOBAL STATUS OF FISH STOCKS:**
  - 15% underexploited or moderately exploited
  - 53% fully exploited
  - 32% overexploited, depleted or recovering
  - From a fisheries management perspective: 88% of world fisheries are sustainable
  - From a 360° perspective: 85% of world fisheries in crisis/ not sustainable

TRUE OR FALSE MESSAGE?

Let’s have a look at the development of some major NE-Atlantic stocks and fisheries during the period of building sustainable fisheries management systems (1985+).
Improvement in fisheries management

- Study by German fisheries institute (Thünen Institut für Seefischerei) December 2012 published in 'Marine Policy'
- Many fish stocks in the NE Atlantic doing much better than 10 years ago
- 41 of the most important fish stocks in the NE Atlantic waters, North Sea and Baltic Sea have been analysed
- 44% of these stocks are fished at MSY level; in 2001 this was 12%
- Many of the other fish stocks show clear improvements

(www.sciencedirect.com/science/article/pii/S0308597X1200200X)

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4. Old image of bad management sticks – sharp positive changes in last 10-15 years
5. Fisheries science is about assessments of stocks \( \rightarrow \) best guess \( \rightarrow \) no certainty
Assessment 2010

Impact on allowed landings (TACs) and on the industry

Assessment 2012

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5. Fisheries science is about assessments of stocks → best guess → no certainty
6. Key is good management of the fisheries. But prudent management does not always result in sound stocks (nature often unpredictable)

Example 2: blue whiting

State of the stocks in Europe

ecologic development in the Norwegian Sea

ecologic development in the Norwegian Sea

Strong temperature rise from 1995 led to an ‘explosion’ in the pelagic stocks
And a parallel ‘collapse’ in the plankton

How did the plankton look?

2000 2012

How did the fish react?

Growth

How did the fish react?

Length at age for herring and mackerel continue decreasing, blue whiting turned positive when the stock got ‘small’

How did the fish react?

Length at age 7 herring: -4.5 cm in 30 year

-4.5 cm corresponds to a 31.5% weight reduction in spawning herring, meaning that about 1/3 of the spawning stock is gone due to reduced growth

How did the fish react?

Condition factor in May
Historic condition in May

Condition in May, later years

Comparison historic and present

How did the fish react?

Observed starving herring in the Norwegian Sea after 2010
Jan Mayen, August 2011

How did the fish react?

Migration

'Normal' length distribution in the ocean in May
New development: large herring that should have been by Iceland is observed just outside the spawning grounds.

 Changed length distribution from 2011

Natural mortality strategy, present

M-strategy: zooplankton further grazed out, fishes dying from natural mortality

Fishing strategy

F-strategy: Fish out pelagic grazing capacity to allow for plankton recovery

What's the difference?

∆ Plankton: Loss of plankton spawning stock by postponing reduction of the pelagic grazing capacity

What can the system sustain at present? A very preliminary calculation!

Stable situation at about 11 million tonnes fish and 13 g/m² plankton = 1.2 g/m² per 1 mt fish
Now about 6 g/m² plankton, can sustain:
6/1.2= 5 mt fish

What is needed to get growth in the plankton? There is between 15-20 million tonnes pelagic fish at present.

The case of mackerel
Mackerel Management

- Management plan in place since 1999; new management plan in 2008
- Coastal states agreements (EU, Norway, Faroe Islands) since mid 1990’s
- Since 2008 all (Northern) EU and Norwegian mackerel fisheries certified under MSC

→ Mackerel management has proved to be successful

ICES Advice 2012

- Southern component (spawning)
- Western mackerel (spawning and migration)
- North Sea component
- Feeding area southern, North Sea and western mackerel

ICES Advice 2012

- TAC 2013: 542,000 t

Iceland

- Expanding stock leads to mackerel fisheries in Icelandic waters
- Free fisheries up to 2009
- High quota set in 2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Catch</th>
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<tbody>
<tr>
<td>2013</td>
<td>Quota announced, 125,000t</td>
</tr>
<tr>
<td>2012</td>
<td>Estimated 145,000t</td>
</tr>
<tr>
<td>2011</td>
<td>140,000t</td>
</tr>
<tr>
<td>2010</td>
<td>(Quota Set) 130,000t</td>
</tr>
<tr>
<td>2009</td>
<td>130,000t</td>
</tr>
<tr>
<td>2008</td>
<td>122,330t</td>
</tr>
<tr>
<td>2007</td>
<td>36,742t</td>
</tr>
<tr>
<td>2006</td>
<td>6,222t</td>
</tr>
<tr>
<td>2005</td>
<td>363t</td>
</tr>
<tr>
<td>2004</td>
<td>0t</td>
</tr>
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Iceland

- Has vastly increased fishing pressure on stock
- Licensed all suitable whitefish vessels to participate in the fishery
- One Icelandic company invited EU vessel owners to participate in a joint venture
- October 2012, Icelandic Government engages a UK, PR company – Burson and Marsteller – to sell their sustainability credentials
- Since then Iceland has been very active in media, Major PR event promoting Icelandic fishery held in UK (December 2012)
- Iceland hosts major UK Sunday press delegation in Reykjavik
- January 2013
- Information indicates additional press events planned
- Iceland will hold a general election in April – mackerel is political issue

New battle front is the media!
Faroe Islands

- Partner in Coastal States Agreement up to 2009
- Fixed share of about 4.6% of overall TAC (about 26,000 tonnes in 2010)
- Steps out of Coastal States agreement in 2010
- Sets autonomous quota of 85,000 tonnes (3 times regular share)
- 2011 quota 150,000 tonnes and 2012 quota 148,375 tonnes
- 2013 quota not made public yet (rumours: 125,000 tonnes + 30,000 tonnes unused 2012 quota)

Faroe Islands use mackerel as currency to buy cod from Russia
- Believed to be 30,000t in 2012
- Demersal vessels are all granted a licence to fish mackerel
- Vessels from Russia, Peru and China are granted mackerel allocations
- As a self governing territory of Denmark they can export fish into the EU, including mackerel, against zero tariff

→ Faroe Islands now refuse to sign agreement on Atlantic herring

Russian Federation

- 2010 autonomous quota of about 45,000 tonnes, which is higher than regular share
- 2011 ICES catches state 73,601 tonnes
- 2012 quota believed to be 62,072 tonnes
- 2013 quota level unknown
- Russia fishes mackerel in international waters and Faroese EEZ

Mackerel Scientific advice 2010-2013 comparing actual (in green) and possible (in red) advice if Iceland and Faroe would have acted responsibly

Science 2013

Industry and majority of scientists are convinced that mackerel stock is 2 to 3 times as big as officially stated in ICES reports

- Nordic Survey planning group (ICES) has met this week
- Industry initiates an industry/science meeting on 25 February: how can industry contribute to an improved mackerel assessment
- Triennial egg survey will be conducted during spring period – results provide main data for scientific assessment
- Mackerel earmarked for ICES benchmarking exercise February 2014
- BUT, better mackerel assessment based on more/better data will take several years

99% of egg production in EU waters
Action plan requested by EU industry

- no bilateral agreement with Iceland and Faroe Islands until mackerel dispute successfully resolved
- no access for Iceland to fish mackerel in the EU zone
- trade sanctions against the Faroe Islands and Iceland must be implemented – first with mackerel imports and then with white fish imports from Iceland and Faroe Islands
- Iceland accession to the EU cannot be considered until the mackerel dispute has been successfully resolved.

→ so far very little action taken by EU

Marine Stewardship Council

- MSC suspends mackerel certificates for its clients per 1 April 2012 until conflict is resolved and all mackerel fisheries have been brought back under joint management

NGO’s

- February 2013: UK based NGO ‘Marine Conservation Society’ removes mackerel from their fish-to-eat list
- instigates a huge media frenzy in UK press
- One mystery remains unsolved – why do mainstream NGO’s – WWF, North Sea Foundation etc. remain so silent on this issue?

Current Situation: standstill

- Dispute over mackerel shares remains unresolved after 3 yrs
- During the period Coastal States have met on 15 occasions
- EU and Norway have made 4 improved offers to Iceland and Faroe – the last offers were around 8% each
- Iceland and Faroe remain welded to their 15% demand
- No counter offer has been received from Iceland and Faroe Islands in 15 meetings
- Although the demand is 15%; both Iceland and Faroe set their quotas based on 23% - what is the rationale?
- EU states it won’t attend any further meetings until Iceland or Faroe Islands table a counter offer in writing

some conclusions

- more nuance needed in debate on overfishing
- underexploitation is possible as result of too prudent management
- successful management has often a temporary nature because of maverick behaviour by states and/or fleets
- single stock management needs better science
- ecosystem based management still in early days – science needs to be developed
- industry must actively be involved in scientific data collection and in scientific collaboration in general to bridge the knowledge gap
CFP reform – state of affairs

- July 2011 EC proposal
- June 2012 – general orientation Council
- February 2013 – Vote European Parliament
- February – June 2013: Irish presidency tries to finalize the reform in the ‘trilogue’ (Council/EP/EC)

CFP reform – core items

- How to define the Maximum Sustainable Yield concept
- Discards ban
- Regionalisation / decentralisation
- Rights based management - Individual transferable quota on EU level
- Away from micro management

Who is involved in the management of pelagic stocks

**Decision makers**

- European Commission
- Other coastal states and NEAFC (North East Atlantic Fisheries Commission)

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- European Commission
- Other coastal states and NEAFC
- Council of EU ministers of fisheries

**Advisors**

- Scientific stock assessments by ICES (International Council for the Exploration of the Sea)
- STECF (Scientific, Technical, and Economic Committee on Fisheries)
- ACFA (Advisory Committee on Fisheries Affairs)
- Pelagic RAC (Pelagic Regional Advisory Council)

**Industry**

- 8 EU member states, Norway, Iceland, Faroer

Pelagic stocks are shared stocks

- North Sea herring decided by EU, Norway
- Mackerel decided by EU, Norway, Faroer, Iceland & NEAFC (Russia)
- Blue whiting decided by EU, Norway, Faroer, Iceland & NEAFC
- AS Herring decided by EU, Norway, Faroer, Iceland, Russia

Source: Prof. A.D. Hawkins
Way forward?

- Intensified collaboration industry and science by
  - Data collection on commercial vessels on the basis of scientific supervision
  - Commercial data integrated in the ICES assessment cycle
  - Selectivity research led by fishing industry and technology suppliers ad verified by scientific testing
- Collaboration between industry and those NGO’s that are willing to cooperate and to take responsibility
- Accept the notion that fisheries is and must be an economic activity. Without economic sustainability no ecological sustainability