EUROPEAN PARLIAMENT

DIRECTORATE-GENERAL FOR INTERNAL POLICIES

POLICY DEPARTMENT B

STRUCTURAL AND COHESION POLICIES

THE NORTH SEA BROWN SHRIMP FISHERIES

Brussels
25 May 2011

AND International

vTI Johann Heinrich von Thünen-Institut

Why a study ?

- economic and social importance of the sector in three MS
- social and ecological debate
- ongoing reform of CFP and CMO
- NMa case

Aim of the study

- Provide Members of EP's Committee on Fisheries with a clear description of the North Sea Brown Shrimp (*Crangon crangon*) fisheries and markets in NL, DE and DK

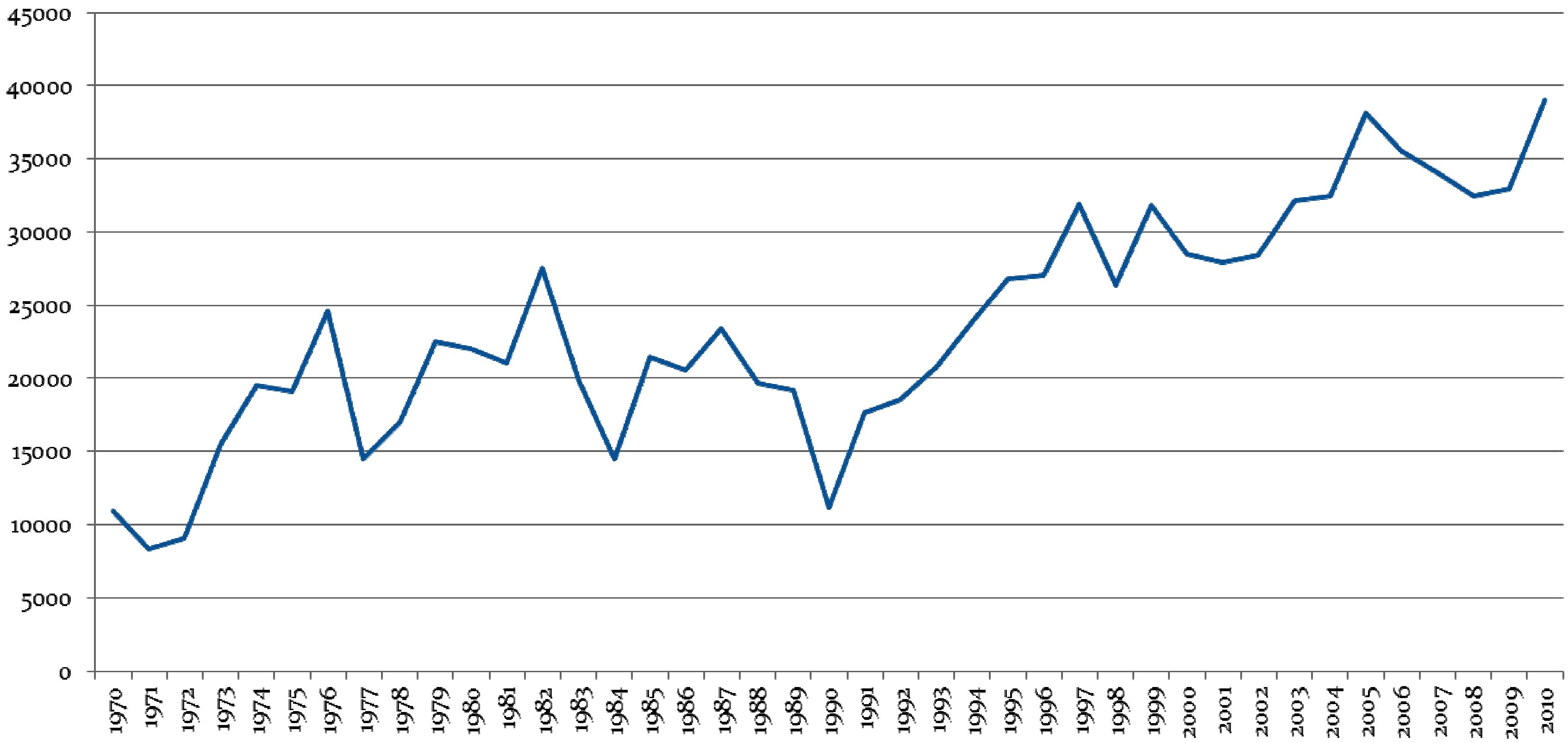
→Information document

- →Production issues
- →Marketing issues
- →Application of CMO

Contents

- Fisheries
  - Production and fishing effort
  - Economic and social relevance of the industry
  - Economic performance of fleets
  - Environmental impact of beam trawling
  - Fishery management
- Markets
  - Description of markets
  - Prices and margins in the sector
  - Application of CMO
  - NMa case
  - Status and perspectives for a MSC certification
- Conclusions and Recommendations

Landings of brown shrimps in the EU

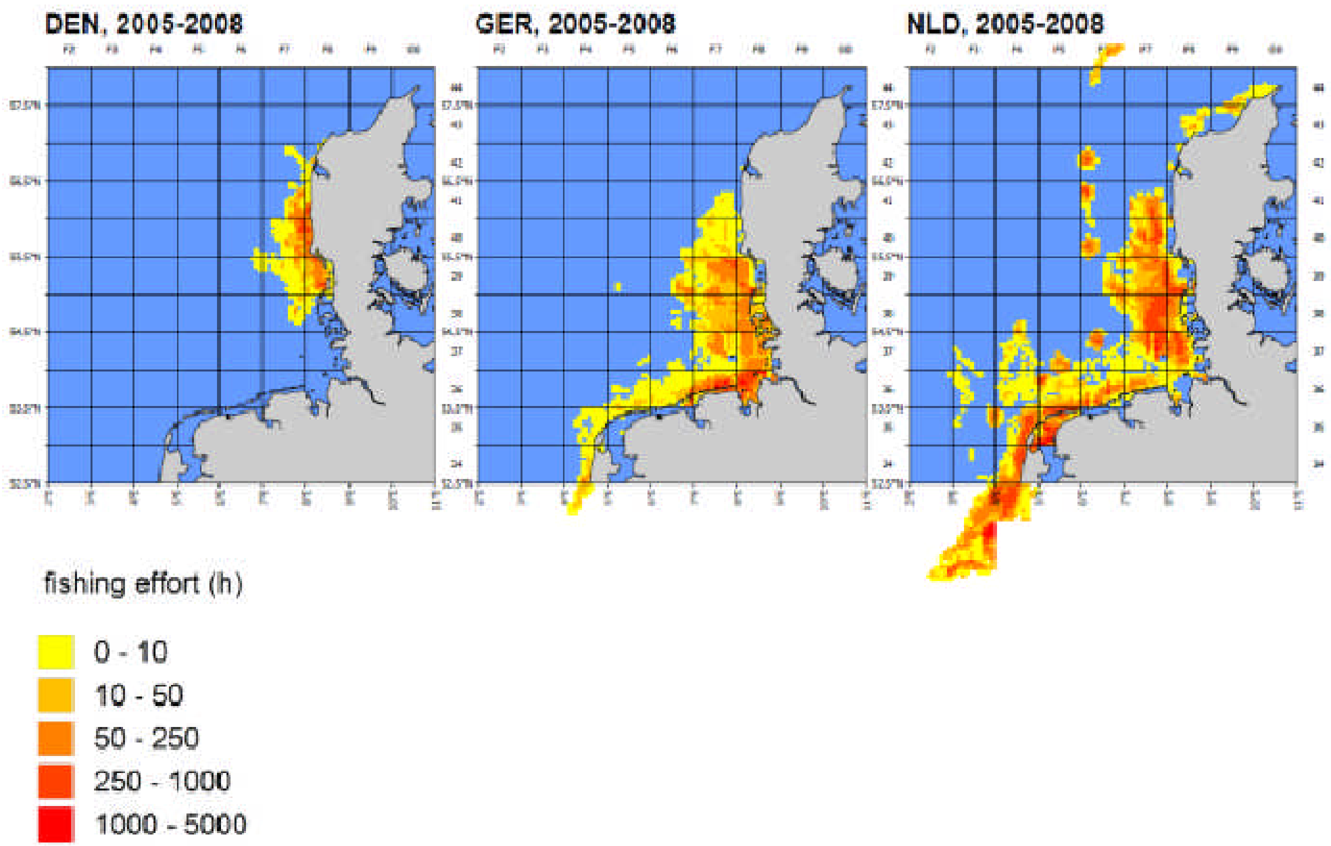


Landings of brown shrimps in the EU
(2009)

MS	t	%
Netherlands	15 512	47,2%
Germany	12 567	38,2%
Denmark	3 096	9,4%
Other MS	1 709	5,2%
TOTAL	32 884	100,0%

Source : WGCRAN

Fishing effort and fishing grounds



Economic and social relevance

500 vessels – more than 1000 fishermen

Number of shrimp licenses in 2010	
Netherlands	**225**
Waddensea	92
Other coastal areas	133
Germany	**253**
Lower Saxony	137
Schleswig-Holstein	116
Denmark	**28**
Total	**508**

Source : NVB

Economic and social relevance : Denmark

Revenues = 7 mio €

2% of total revenues of the DK marine fishery

Onboard employment = 68 people

3 ports concerned (brown shrimp major species in one of them : Esbjerg)

Economic and social relevance : Germany

Revenues = 33 mio €

20% of total revenues of the DE marine fishery (55% for NS, 26% for SH)

Onboard employment = 580 people (SH, NS)

21 ports concerned (main ones : Büsum, Cuxhaven, Greetsiel, Norddeich, Accumersiel)

Economic and social relevance : the Netherlands

Revenues = 44 mio €

14% of total revenues of the NL marine fishery

Onboard employment = 500 people

7 ports (auctions) concerned (main ones : Lauwersoog, Den Oever, Harlingen, Zoutkamp)

Fleet structure

DK	DE	NL
Most modern vessels	High share of small and old vessels	Most powerful vessels
Effective fishing schemes	Strong seasonal fishing pattern	Highest landings/vessel
		Fish mainly continuously

Structure of fleets 2010

MS	Average Power (kW)	Average Gross Tonnage	Average Overall Length (m)	Average Age (years)
DK	186	47	17,00	23
DE	187	45	17,43	34
NL	198	62	21,21	27

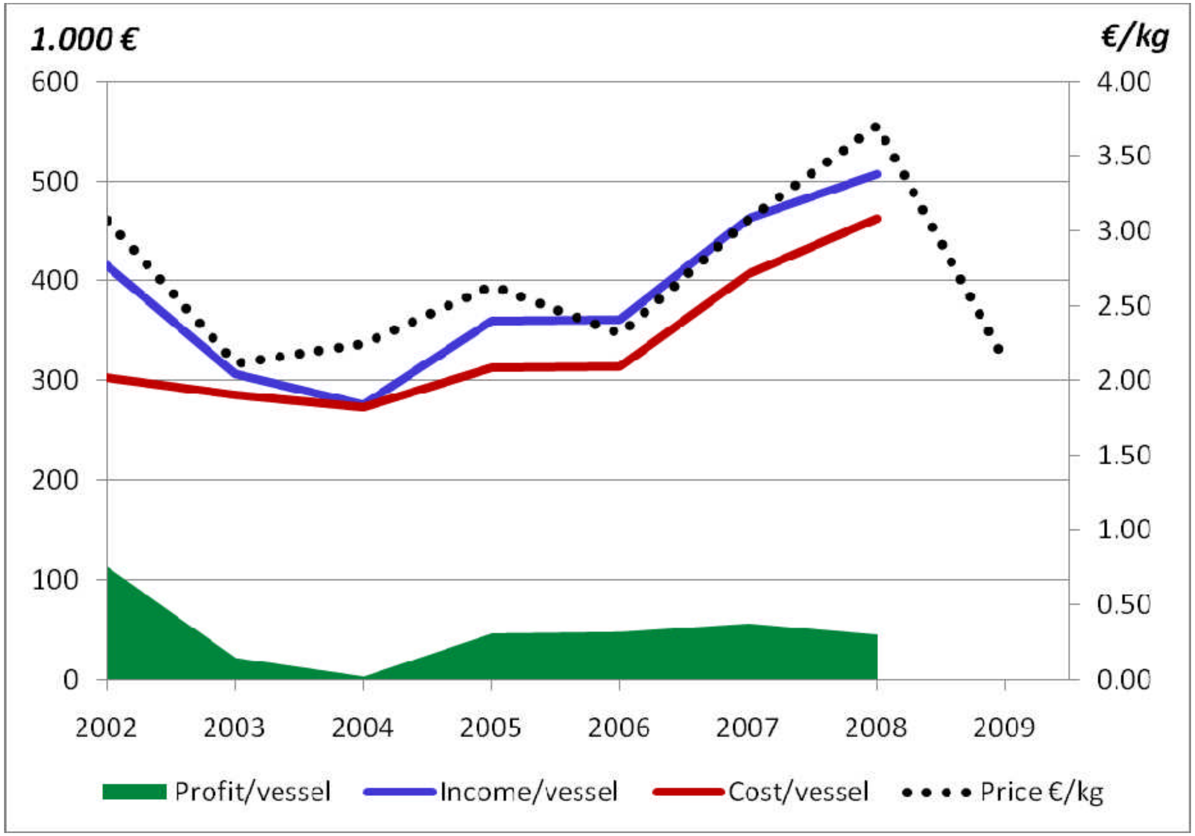
Source: BLE, EU Fleet Register and IMARES

Catching performance 2010 (t)

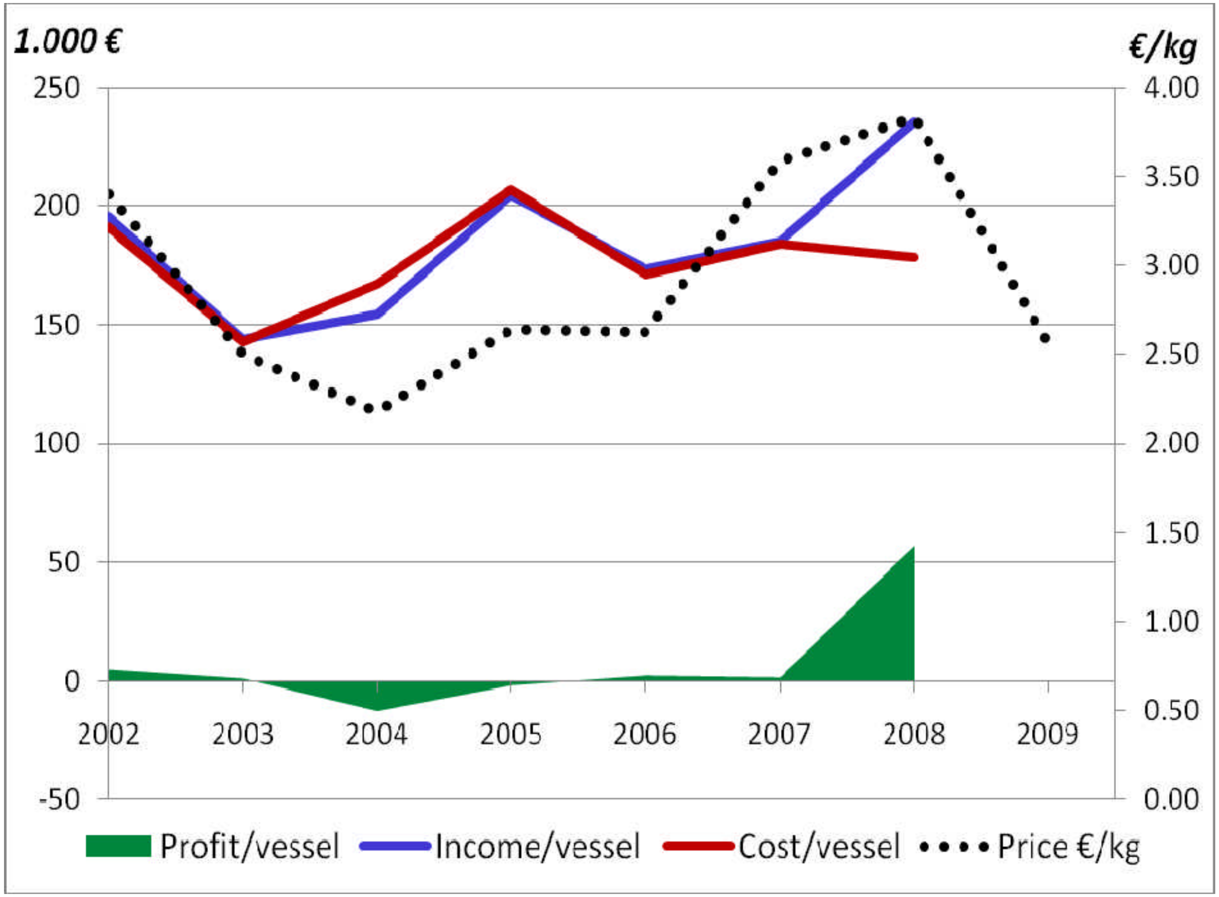
MS	Mean	Max	Min
DK	105,2	161	55,8
DE	52,6	181,6	1,5
NL	83	243,3	2

ource: ICES WGCRAN (2010), Kristensen and vTI

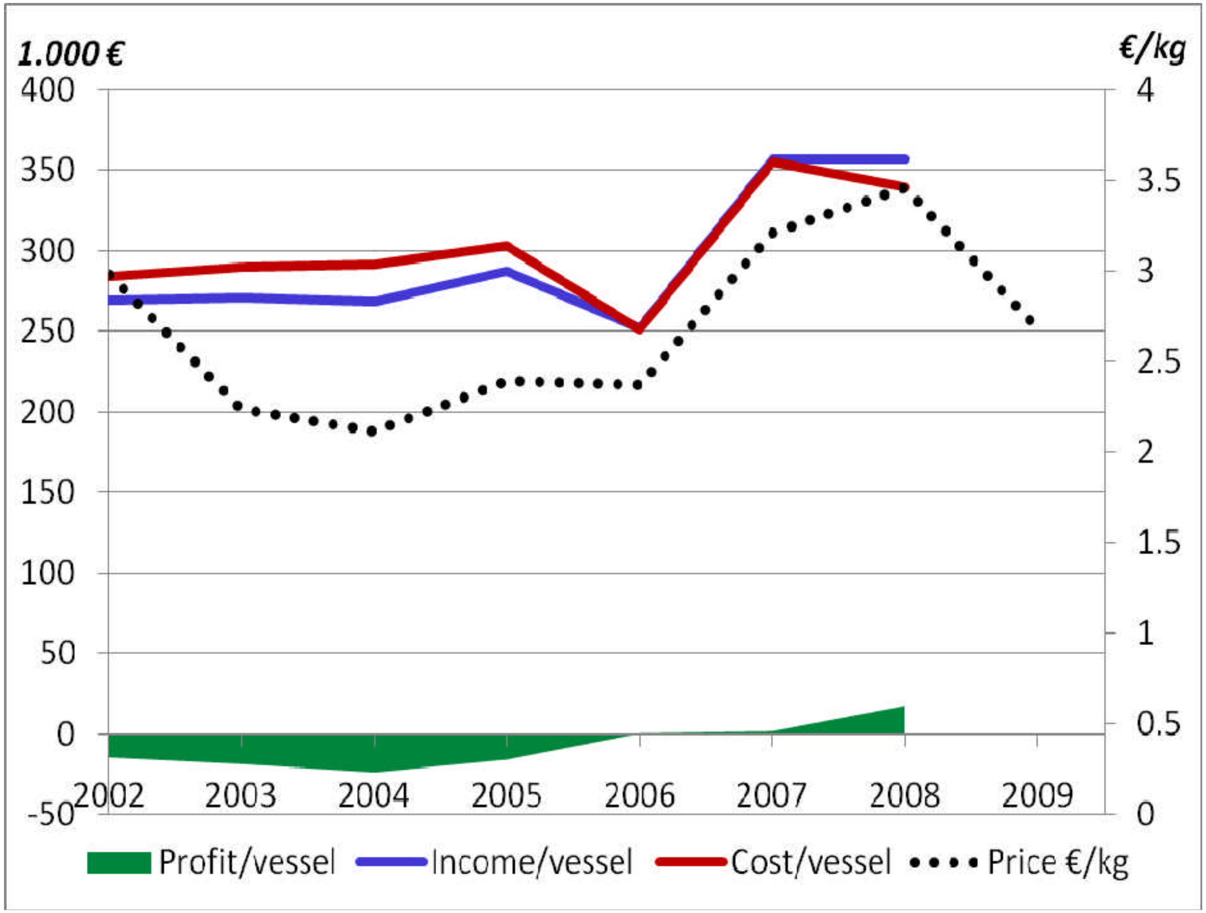
Profitability of fleet : DK



Profitability of fleet : DE



Profitability of fleet : NL



Brown shrimp fleet : conditions of profitability

- Knowledge Circle « Sustainable Shrimp Fishery » (Wageningen UR)

Price level (first sale)	Profitability ?
< 2,25 €/kg	money-losing activity
between 2,25 and 3,50 €/kg	insufficient
> 3,50 €/kg	long-term profitability

Brown shrimp fleet : conditions of profitability

	Present situation : 500 boats			Hypothesis : 375 boats		
		Unit (€)	€		Unit (€)	€
Revenues (shrimp catches)	30 000 000 kg	**3,50**	105 000 000	30 000 000 kg	**3,50**	105 000 000
Gasoil consumption	50 000 000 ltr	0,50	25 000 000	50 000 000 ltr	0,50	25 000 000
Labour costs	1 000 men	35 000	35 000 000	750 men	35 000	26 250 000
Operational costs	500 boats	55 000	17 500 000	375 boats	55 000	13 125 000
Gross profit	500 boats	55 000	27 500 000	375 boats	108 333	40 625 000
Revenues (shrimp catches)	30 000 000 kg	**2,75**	82 500 000	30 000 000 kg	**2,75**	82 500 000
Gasoil consumption	50 000 000 ltr	0,50	25 000 000	50 000 000 ltr	0,50	25 000 000
Labour costs	1 000 men	35 000	35 000 000	750 men	35 000	26 250 000
Operational costs	500 boats	55 000	17 500 000	375 boats	55 000	13 125 000
Gross profit	500 boats	10 000	5 000 000	375 boats	48 333	18 125 000
Revenues (shrimp catches)	30 000 000 kg	**2,50**	75 000 000	30 000 000 kg	**2,50**	75 000 000
Gasoil consumption	50 000 000 ltr	0,50	25 000 000	50 000 000 ltr	0,50	25 000 000
Labour costs	1 000 men	35 000	35 000 000	750 men	35 000	26 250 000
Operational costs	500 boats	55 000	17 500 000	375 boats	55 000	13 125 000
Gross profit	500 boats	-5 000	-2 500 000	375 boats	28 333	10 625 000
Revenues (shrimp catches)	30 000 000 kg	**1,75**	52 500 000	30 000 000 kg	**1,75**	52 500 000
Gasoil consumption	50 000 000 ltr	0,50	25 000 000	50 000 000 ltr	0,50	25 000 000
Labour costs	1 000 men	35 000	35 000 000	750 men	35 000	26 250 000
Operational costs	500 boats	55 000	17 500 000	375 boats	55 000	13 125 000
Gross profit	500 boats	-50 000	-25 000 000	375 boats	-31 667	-11 875 000
Revenues (shrimp catches)	30 000 000 kg	**1,57**	47 100 000	30 000 000 kg	**1,57**	47 100 000
Gasoil consumption	50 000 000 ltr	0,50	25 000 000	50 000 000 ltr	0,50	25 000 000
Labour costs	1 000 men	35 000	35 000 000	750 men	35 000	26 250 000
Operational costs	500 boats	55 000	17 500 000	375 boats	55 000	13 125 000
Gross profit	500 boats	-60 800	-30 400 000	375 boats	-46 067	-17 275 000

Fisheries : environmental impacts

- 2 main concerns for NGOs :
  - by-catch and discards
  - effect of trawls on sea bed

Fisheries : environmental impacts

- Present stock sizes high – no sign of overfishing
- Year class strengths extremely variable – depend mainly on temperature (warm winters have a negative effect)
- High predator presence (concentrations of whiting) -> negative effect on abundance
- Effect of shrimp trawls on sea bed negligible

Fisheries - environmental impacts : discards

Operation	*Output*	*Tonnes*	*Part of original catch (%)*
Fishing	Catch	182 000	100
1st sieving (onboard)	Discarded at sea (alive)	123 300	68
Onboard cooking	Cooked production	58 700	32
2nd sieving (onboard)	Discarded at sea (cooked)	17 600	10
Landing	Landed production	41 100	23
3rd sieving (ashore)	Crushed	3 100	2
First sale	Marketed production	38 000	21

Source : Neudecker et al. (2006)

Total discard : 78% of catch
Survival rate of total discard : 60%

Fisheries - environmental impacts : trawl fishing

- Confusion between 2 different types of beam trawl : flat fish trawl and shrimp trawl.
  - Flat fish trawl : heavy and very rigid beam trawl equipped with heavy chains
  - Shrimp trawl : much lighter, no chains, but a roller gear which hops and rolls over the seabed
- Minimal and temporal effects on seabed

Fisheries - environmental impacts : trawl fishing

Fisheries - environmental impacts : remedies

- By-catch reduction is achievable by :
  - using square meshes instead of traditional diamond meshes: reduce by-catch of small round fish and small sole
  - reducing effort from June to August
  - applying veil nets most of the time (less or no exemptions)
  - avoiding shallow waters

Fisheries : management

- Ongoing MSC certification process in the 3 MS → management plans developed :
    - fishing times
    - catch reduction rules (LPUE)
    - bycatch rules
    - vessel capacity

Markets : EU market

Market	Share	t landed weight equivalent
Belgium	54%	17 800
Netherlands	18%	5 700
Germany	18%	5 600
France	7%	2 300
Others	3%	1 000
Total	100%	34 700

Source : AND International from wholesalers' data

Markets : concentration

- 2 companies = 80% of the market

HEIPLOEG
KLAAS PUUL

Remaining 20% : also mostly Dutch wholesalers and processors

Markets : DK

- No significant market
- No companies involved in brown shrimp processing
- Danish production bought by Dutch wholesalers and transported to NL

Markets : DE

- Big market for brown shrimp : 5 600 t
- > 20 small wholesaling and processing companies selling locally (200 jobs)
- The 2 main actors operating in DE are HEIPLOEG and KLAAS PUUL

Markets : NL

- Big market for brown shrimp : 5 700 t
- The 2 leaders buy about 30 000 t of brown shrimp per year

Company	Crangon purchases (t/year)	Part of crangon in company's overall turnover	Turnover 2010 (mio€)
HEIPLOEG	17 - 20 000	30	279
KLAAS PUUL	11 000	30	143
HEYKO	2 500	100	11
TELSON	2 400	95	5,5

Markets : NL – HEIPLOEG (1)

- **HEIPLOEG** = market leader, largest supplier of shrimps in Europe.
  - HEIPLOEG B.V. (Zoutkamp, NL) : largest shrimp processing factory in Europe (250 people)
  - HEITRANS (Zoutkamp, NL) : own transportation division of HEIPLOEG (43 lorries, 59 trailers)
  - BÜSUMER FISCHEREI (Büsum, DE)
  - GOLDFISH (Volendam, NL)
  - MORUBEL (Ostend, BE)
  - DANSK HEIPLOEG (Rømø, DK)
  - TK FISH (Tetouan, Morocco)

Markets : NL – HEIPLOEG (2)

Export-oriented.

Sales :	BE	approx. 70%
	NL	approx. 10%
	DE	approx. 10%
	FR	approx. 10%

Markets : NL – KLAAS PUUL

Brown shrimp processing facilities :

- Edam (NL) : processing and packaging
- Havneby (DK) : sorting and packing for transportation to NL
- Büsum (DE) : sorting and packing for transportation to NL
- Tanger (Morocco) : peeling

Sales :	BE	45%
	DE	23%
	NL	22%
	FR	4%

Markets : peeling

- Failure of NL and DE attempts to peel locally and mechanically
- Almost all peeling operations take place in MA.
- Full peeling process : 15 days on average
- Big companies have their own peeling facilities :
  - HEIPLOEG :
    - own factory in Tetouan (1 400 employees)
    - 4 Moroccan contractors
  - KLAAS PUUL :
  - HEYKO : factory in Morocco (250 employees)
  - TELSON : Moroccan contractor in Tanger
- Cost of peeling : 5,20 €/kg (transport included)

Markets : prices and margins

- Prices at the various levels of the shrimp sector in January 2011

	€/kg	€/kg
Paid to the fisherman pro landed kg	2,00	3,50
Auction fees (NL)	0,33	0,33
Purchase price whole shrimp by wholesaler	2,33	3,83
3 kg needed for 1 kg meat	6,99	11,49
Peeling cost (included transport to and from Morocco)	5,20	5,20
Cost peeled shrimp entrance Dutch processing factory	12,19	16,69
Processor's selling price	17,00 to 25,00	
Retail price (BE-DE-NL)	21,10 to 39,90	

Source : calculations AND International

Markets : image of brown shrimp

- Consumers
  - Good image of brown shrimp on the markets
  - Consumers faithful to brown shrimp (very few of them switch to pink shrimp when brown shrimp is expansive)
  - Consumers generally not aware of elements likely to affect shrimp quality : long peeling trip to Morocco, mixing of fresh and frozen shrimps, heavy use of preservatives, time between catch and purchase in the supermarket

- Position of NGOs
  - Good points :
    - good state of the stock, species considered as not threatened
  - Bad points :
    - high level of by-catch
    - environmental damages caused by beam trawls

Markets : NMa case (1)

- NMa (Nederlands Competition Authority) : proceedings against the shrimp sector
- Motive : possible infringements of :
  - Section 6(1) of Dutch Competition Act : concerted practices with purpose or consequence of impeding, restricting or distorting competition on NL market
    - minimum price and catch limits in the framework of the Trilateral Consultation from 1 January 1998 to 30 January 2000)
    - agreement aimed at obstructing the entry of a new trader (1 October 1999 – 16 November 1999)
  - Article 81(1) of the EC Treaty : agreements and concerted practices with purpose or consequence of impeding, restricting or distorting competition within EU market
    - minimum price and catch limits in the framework of the Trilateral Consultation from 1 January 1998 to 30 January 2000

Markets : NMa case (2)

- January 2003 : NMa imposed fines on 8 POs (4,0 mio€) and 8 wholesalers (9,8 mio€)
- December 2004 (administrative appeal) : fines withdrawn for the 5 smaller wholesalers and reduced to 6,2 mio€ for the others
- December 2006 : fines upheld, but reduced again for POs (5,4 mio€)
- 22 March 2011 (final ruling - CBp) : fines upheld but reduced (4,4 mio€)

- ==> permanent monitoring of the NL shrimp sector by NMa
- ==> NL stakeholders now very cautious

Application of CMO : POs - DK

- Organisation rate : 100%
- All 27 shrimp vessels organized in one PO : Danske Fiskeres Producent Organisation (DFPO)
- Seems to work efficiently and consistently.

Application of CMO : POs - DE

- Organisation rate : 80%
- German POs' history : hectic, many changes throughout the years (mergers, break-ups, closings)
- Latest important restructuring in december 2010 : 2 mergers (EG Elbe-Weser + FG Holsatia and FG Holsatia + 1. EG Büsum)
- 3 POs = 74% of vessels and 81% of catches

Application of CMO : POs - NL

- Organisation rate : 90%
- Most NL fishermen members of a PO (206 out 225 licences)
- 7 POs involved in brown shrimp fisheries

PO	POs' Association	Location	Date of recognition	Number of vessels involved in shrimp fishing	Part in shrimp landings
CPO Nederlandse Vissersbond	TPO-Oldenburg	Emmeloord	1987	110	about 50%
CPO Oost Nederland	VisNed	Urk	1971	8	about 50%
CPO Wieringen	VisNed	Den Oever	1986	44	
CPO Texel	VisNed	Oudeschild	1993	6	
CPO Delta Zuid	VisNed	Yerseke	2003	11	
CPO West	VisNed	Den Helder	2003	2	
Internationale Garnalen PO Rousant	VisNed	Lauwerzijl	2009	25	

Application of CMO : POs – EU level

- Organisation rate : 88% (from 80% to 100%)
- Transnational PO founded in 2005 :
  - as a reaction to NMa's action,
  - with the aim of limiting landings and regulating fishing
  - 1st January 2011 : half of the fleet
- Action of POs limited by dissents between POs (NL, DE) and fear of NMa

TPO Member	Number of members 01.01.2010	
	Members	Vessels
Vissersbond	87	87
Weser-Ems	81	82
1. EG Büsum	25	25
Tönning	26	26
Holsatia	15	15
EG Büsum	8	8
Total	**242**	**243**

Source : EVKrEO

POs – TACs under debate (1)

- System favoured by some stakeholders (esp. NL)
- Pros :
  - Stabilizes landings and markets
  - Stabilizes impact on stocks and environment
  - Settles the « fisherman's dilemna »
  - Stabilizes and secures marketing and processing activities
  - Increases and makes durable the scientific interest for brown shrimp stock
  - Makes the MSC certification process easier
  - Gives more responsability to POs

POs – TACs under debate (2)

- Cons :
  - Limits the freedom of the market and makes entrance of newcomers more difficult
  - Entails more administrative processes and control costs
  - Problem of quota share-out
  - If ITQs, risk of concentration of landing points and possible negative impact on tourism (DE)
- On 18 April 2011 NMa rejected the proposals on catch limits aimed at protecting the shrimp population :
  - no need for such limits
  - shrimp population not in danger
  - not allowed by Dutch Competition Act

Application of CMO : withdrawals

- Tool very little used (almost exclusively by DK)
- 0,66% of total landings in 2009

	tonnes
2001	2
2002	19
2003	251
2004	98
2005	11
2006	4
2007	1
2008	59
2009	219
2010 (6 months)	56

Source : DG Mare

Application of CMO : Interbranch Organisation

- The Dutch : no need of an IBO since the Productschap Vis (Dutch Fish Product Board) already plays this role :
  - public umbrella for the entire branch
- Productschap Vis also shelters the Shrimp Advisory Committee

Application of CMO : Autonomous tariff quotas

Impact on brown shrimp market ?

Description of the product	Council Regulation (EC)	Quota period	Annual amount of quota (tons)	Quota duty
Shrimps and prawns of the species *Pandalus borealis*, cooked and peeled, for processing	n° 2803/2000	2001-2003	5 000	6%
	n° 379/2004	2004-2006	7 000	6%
	n° 824/2007	2007-2009	20 000	6%
	n° 1062/2009	2010-2012	20 000	0%

No impact on the brown shrimp sector, since market segments for pandalus and crangon shrimps are quite independent

Status and perspectives for MSC certification

- On-going process in the 3 MS
- Management plans developed but not yet finalized

Common points	Differences
Efforts to improve fishing techniques and fishing operations	Total fishing effort (total number of hours at sea/vessel)
Plans to reduce fishing effort in order to reduce by-catch and discards and to keep the stock of brown shrimps in a good state	Acceptable share of small shrimp in landings
	Sizes of sieves to be applied ashore

- Certification probably not before 2012

Key findings and conclusions (1)

- Stock in good state, no sign of overfishing
- Brown shrimp fishery very important for DE and NL fleets
- Revenues of beam trawlers 12-24 m in DE and NL almost entirely dependent on brown shrimp fishing
- Brown shrimp fishing cannot be profitable with a first sale price < 2,75 €/kg, present price makes most shrimp vessels unprofitable
- The situation has deteriorated in the last months
- Overcapacity of the fleet, oversupply of the market

Key findings and conclusions (2)

- Application of CMO : little impact on brown shrimp market
- Effectiveness of POs hampered by disagreements and fear of Nma
- Strong concentration of the processors
- Retail prices make processors' and retailers' business profitable

Recommendations

- Foster the reduction of discard levels (see slide 23)
- Strengthen research on new designs of beam trawls (to reduce fuel consumption and discards)
- Consider a fleet reduction (and socio-economic consequences)
- Deepen the TAC issue (and socio-economic consequences)
- Favour quality improvement (codes of conduct for fishermen)
- Speed up the MSC certification process