

BELGICA – CAMPAIGN REPORT

1. Campaign no.: 2010/31 a,b

2. Date:

Leg a

VTV: 29/11/2010 - 12:00

VTA: 03/12/2010 – 11:30

Leg b

VTV: 05/12/2010 – 24:00

VTA: 08/12/2010 – 11:30

3. Objectives:

ILVO-Polet – Testing the performance of an alternative beam trawl.

The Belgian fishing fleet consists mainly of beam trawlers. This fishing method has some serious drawbacks like high fuel and material consumption, high discard levels and a significant environmental impact. ILVO-Fisheries (Oostende) is developing an alternative beam trawl in close cooperation with the fishery sector in order to reduce these drawbacks. Following alterations are being tested and are already used on board of some commercial beam trawlers on an experimental and voluntary basis:

- Roller gear to reduce ground the seafloor friction,
- large meshes (300mm) in the top panel to reduce gear drag and increase roundfish selectivity,
- a benthic release panel in square meshes in the belly of the trawl to reduce discarding of non-commercial species and
- a T-90 cod-end to reduce discarding of commercial roundfish and other non-commercial species.
- The Sumwing hydrodynamic beam

This alternative beam trawl is being developed in the frame of:

- the biodiversity directives of the European Commission (background: the Johannesburg Declaration),
- the “North Sea Cod Recovery Plan” and other management plans to protect commercial fish stocks,
- the IWT-project CIVIS and the project “Alternative beam trawl”,
- The European Fishery Fund project ADVIS II,
- a general concern in ILVO-Fisheries about the quality of the marine environment and
- an increased profitability of the Belgian fishing sector.

The present Belgica voyage is dedicated to the following objectives:

- **Alternative stimulation of fish by turbulence generating cups in the netopening.**
- **Collect biological data on commercial fish species in the frame of NDGP (EU DataCollection Regulation)**

In addition the monitoring of the sole, plaice, turbot, brill and cod populations was carried out by a second team.

4. Coordinator:

Hans POLET (ILVO-Fishery).

5. Fishing Area:

Areas in the Southern North Sea: Oost-Dyck (Camera-work), Kentisch Knock, Black Deep, Knock Deep, Orfordness.

6. Researchers:

Name	Institute
1. H.POLET	ILVO Visserij Oostende
2. B. VERSCHUEREN	ILVO Visserij Oostende
3. F. DELANGHE	ILVO Visserij Oostende
4. K. VANHALST	ILVO Visserij Oostende
5. C. VANDEN BERGHE	ILVO Visserij Oostende
6. N. VAN CRAEYNEST	ILVO Visserij Oostende
7. D. VERHAEGHE	ILVO Visserij Oostende
8. J. BOSSAERT	ILVO Visserij Oostende
9. D. VUYLSTEKE	ILVO Visserij Oostende

7. Departure and arrival:

Leg 1:

Departure: Monday 29 November 2010 at 12:00

Arrival: Friday 03 December 2010 at 11:30

Leg 2:

Departure: Sunday 05 December 2010 at 24:00

Arrival: Wednesday 08 December 2010 at 11:30

8. Programme:

Fishing gear : 8 meter 120mm twin beam trawl with standard cod-ends (80 mm, week 1) and small mesh cod-ends (40mm, week 2).



Following selective devices were tested:

- Alternative stimulation of fish by turbulence generating cups in the netopening.

Catch sampling: After each haul the total weight of the catch of each cod-end was determined and after sorting, the weight of the benthos and trash fraction. All commercial fish species were sorted out and measured to the cm below. For all selected hauls, a benthos sample was taken for further analysis in the laboratory and for selected hauls, the total catch was analysed. The catch comparison of starboard and port side allows determining the catchability of the experimental net in comparison with a standard commercial beam trawl.

Monitoring: Sole, plaice, turbot brill and cod were taken from the catch, measured and otoliths were collected.

9. Report of Activities:

Monday 29 November 2010:

- **08:30 – 12:00:** Embarkment and rigging of the fishing gear.
- **12:00:** Departure Zeebrugge and steaming to the fishing ground “Oost-Dyck”.
- **15:00:** Arrival on fishing ground: “Oost-Dyck” and preparing the fishing gear. Camera – work until 20:30.
- **21:00:** Steaming to the fishing grounds of the mouth of the Thames.

Tuesday 30 november 2010:

- **06:10 – 07:40** haul 01
start position: N 51° 33.450' E 01° 30.670'
end position: N 51° 37.450' E 01° 32.900'

- **08:00 – 09:30** haul 02
start position: N 51° 38.520' E 01° 33.990'
end position: N 51° 36.320' E 01° 28.310'
- **09:50 – 11:20:** haul 03
start position: N 51° 35.380' E 01° 27.330'
end position: N 51° 35.070' E 01° 26.830'
- **11:40 – 13:10:** haul 04
start position: N 51° 35.680' E 01° 27.510'
end position: N 51° 39.780' E 01° 32.860'
- **19:20 – 20:50:** haul 05
start position: N 51° 41.750' E 01° 26.140'
end position: N 51° 42.860' E 01° 28.970'
- **22.15:** End of activities.

Wednesday 01 December 2010:

- The whole day bad weather; no fishery activities.

Thursday 02 December 2010:

- **07:10 – 08:40:** haul 06
start position: N 51° 40.740' E 01° 34.380'
end position: N 51° 35.830' E 01° 30.680'
- **09:10 – 10:40:** haul 07
start position: N 51° 35.100' E 01° 29.470'
end position: N 51° 37.700' E 01° 29.840'
- **11:25 – 12:55:** haul 08
start position: N 51° 39.920' E 01° 31.750'
end position: N 51° 37.740' E 01° 29.610'
- **13:35 – 15:05:** haul 09
start position: N 51° 33.670' E 01° 25.400'
end position: N 51° 37.550' E 01° 32.440'
- **15:35 – 17:05:** haul 10
start position: N 51° 38.160' E 01° 33.000'
end position: N 51° 35.900' E 01° 29.440'
- **17:30 – 18:00:** haul 11a
start position: N 51° 36.650' E 01° 30.650'

end position: N 51° 38.020' E 01° 32.390'

- **18:10 – 19:45:** haul 11b
start position: N 51° 38.020' E 01° 32.390'
end position: N 51° 35.020' E 01° 28.870'
- **20:30 – 22:00:** haul 12
start position: N 51° 33.960' E 01° 25.990'
end position: N 51° 37.920' E 01° 32.930'
- **23:00:** End of activities.

Friday 03 December 2010:

- **03:00:** Steaming to London
- **11:30:** Arrival in London

Sunday 05 December 2010:

- **24:00:** Departure of London.

Monday 06 December 2010:

- **08:45:** Arrival on the fishing ground Orfordness.
- **09:40 – 11:00:** haul 13
start position: N 52° 02.200' E 01° 39.370'
end position: N 52° 21.980' E 02° 00.770'
Heavy duty on both nets. The hole day buzzy with repair the nets.
- **20:30:** End of activities.

• **Tuesday 07 December 2010:**

- **07:30 – 08:15:** haul 14
start position: N 52° 12.00' E 01° 46.000'
end position: N 52° 13.000' E 01° 47.500'
- **13:15 – 14:45:** haul 15
start position: N 51° 44.270' E 01° 38.020'
end position: N 51° 40.370' E 01° 32.680'
- **15:15 – 16:45:** haul 16
start position: N 51° 39.780' E 01° 32.110'

- end position: N 51° 35.190' E 01° 29.800'
- **17:10 – 18:40:** haul 17
start position: N 51° 34.710' E 01° 28.480'
end position: N 51° 34.100' E 01° 26.470'
 - **19:35 – 21:05:** haul 18
start position: N 51° 34.850' E 01° 28.090'
end position: N 51° 33.510' E 01° 25.890'
 - **21:25 – 22:55:** haul 19
start position: N 51° 32.230' E 01° 24.380'
end position: N 51° 34.930' E 01° 27.060'
 - **Wednesday 08 December 2010:**
 - **23:10 – 00:40:** haul 20
start position: N 51° 35.210' E 01° 27.420'
end position: N 51° 37.200' E 01° 32.160'
 - **01:10 – 02:40:** haul 21
start position: N 51° 36.480' E 01° 31.080'
end position: N 51° 38.400' E 01° 32.950'
 - **03:30:** End of activities.
 - **04:00:** Steaming to Zeebrugge.
 - **11:30:** Arrival in Zeebrugge.
 - **12:30 – 17:00:** Disembarkment of apparatus and personal material.

Disembarkment of the fishing gear.

Remarks

The illumination of the stern of the vessel and the A-frame should be improved to enhance safety. In order to work safely, it should be possible to illuminate the front as well as the aft part of the A-frame at the same time.

The ILVO-Fishery team would like to thank the Cdt and crew of RV Belgica for the good cooperation.

Oostende, 10/12/2010

Hans POLET,

Chief Scientist.